Joint Ventures in Construction Firms in Saudi Arabia

by

Kamal Khalil Khairaddin Abbasi

A Thesis Presented to the

FACULTY OF THE COLLEGE OF GRADUATE STUDIES

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This thesis is written by **Kamal Khalil Khairaddin Abbasi** under the direction of his Thesis Advisor and approved by his Thesis Committee, has been presented to and accepted by the Dean of the College of Graduate Studies, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN CONSTRUCTION ENGINEERING AND MANAGEMENT.**

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I dedicate this work to my beloved parents and family for their continuous support. Also I would like to thank my wife for her encouragement and patience she gave. Finally I would not forget all my friends who gave me confidence **FOR ALL OF YOU.**

THANK YOU

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بسم الله الرحمن الرحيم

خلاصة الرساله

اسم الطالب الكامل : كمال خليل العباسي

عنوان الدراسه : الشركات المختلطه في المملكه العربيه السعوديه
التخصص : ادارة المشاريع
تاريخ الشهاده : ١٦ / ١١ / ١٩٨٨ م

تناقش هذه الرساله الشركات المختلطه في المملكه العربيه السعوديه وماهي أهم المشاكل التي تواجه مثل هذه الشركات وقد قام الباحث باجراء مسح استبياني شمل على ٣٠ شركه مختلطه (سعودي واجنبي) و ٢٠ شركه تضامنيه (سعودي و سعودي) .

كما اشتمل البحث على مقاولين المباني ، الطرق ، وخدمات اخرى مثل المياه والمجاري ايضا اشتمل البحث على المكاتب الأستشاريه وقد احتوى الأستبيان على سبع عشرة سؤالا يبحث في اهم المشاكل التي تواجه مثل هذه الشركات . وقد رتبت الأسباب بمقياس يسمى مقياس الأهميه الذي يقوم بترتيب هذه المشاكل حسب اهميتها .
ايضا تم عمل تصميم يضم جميع الأراء وتم تحليل وتنظيم هذه الأراء بمساعدة الحاسب الآلي .

لقد تبين من نتائج الأستبيان أن المقاولون ومكاتب الأشراف الهندسي والمصممون ذات العلاقه جميعهم متفوقون بدرجة كبيرة على ترتيب جداول مقياس الأهميه .

وقدتبين من النتائج ان من اهم المشاكل التي تواجه الشركات المختلطه ذات الشريك الأجنبي هو عدم وضوح العقد المبرم بين الشركه المختلطه والمالك .
اما بالنسبه للشركات التضامنيه فقد تبين أن من اهم المشاكل التي تواجهها هو تأخر المالك في دفع الأقساط المقرره عليه عند انجاز العمل .

وفي نهاية البحث قدمت بعض الأقتراحات والنصائح مع بعض المواضيع المقترحه للتعمق في بحثها من ضمن الدراسات المستقبليه في مجال الشركات المختلطه والمشاكل التي تواجهها .

درجة الماجستير في العلوم
جامعة الملك فهد للبترول والمعادن
الظهران المملكه العربيه السعوديه
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THESIS ABSTRACT

NAME OF STUDENT : KAMAL KHALIL KHAIRADDIN ABBASI

TITLE OF STUDY : JOINT VENTURES IN CONSTRUCTION FIRMS IN SAUDI ARABIA

MAJOR FIELD : CONSTRUCTION ENGINEERING & MANAGEMENT

DATE OF DEGREE : JANUARY, 1989

This thesis discusses the main problems facing the joint venture firms in the eastern province in Saudi Arabia. A survay of thirty firms for Saudi-Foreign joint venture and twenty firms for Saudi-Saudi joint venture from the eastern province was under taken.

The survay includes different questions such as role in construction, type of construction, grade as specified by ministry of commerce, reasons for making joint venture and what type of joint venture Also, the questionnaire includes seventeen different problems facing the construction joint venture firms. These problems are ranked according to the importance index, which measures there level of importance. A computer statistical package (SAS) was used to analyse the data.

A hypothesis that Saudi-Saudi joint venture and Saudi-Foreign joint venture agree on the ranking of importance indices were tested and shown to hold not true. It was concluded that for Saudi-Saudi joint venture, payment delay from the owner, government regulation and lack of adequate study of partner before forming the joint venture are the main problems. For Saudi-Foreign joint venture, poor written contract, la lack of adequate study of partner before forming the joint venture and government regulation are the main problems.

MASTER OF SCIENCE DEGREE

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

DHAHRAN, SAUDI ARABIA

JANUARY, 1989

CHAPTER ONE

INTRODUCTION

1.1 General

As today's projects become more complex and sophisticated, one finds the need to give in-house expertise through an inter-professional temporary agreement of a joint venture where two or more organizations cooperate to meet the total needs of a project. Joint venture in this thesis is defined as a union of two or more parties who agree to share the responsibilities, profits and losses of a construction contract (5). The joint venture can consist of any type of agreement that two or more parties elect to share.

1.2 Statement of the Problem

Transfer technology and risk sharing are major items in forming joint venture business.

Working together for success is the aim of the joint venture. So, joint venture will succeed when different nationalities participate in the project. This is true not only in business activities but also in trade relationships, since it concentrates on the combination of resources between two independent organizations in order to improve their market growth potential.

It is an unfortunate fact of business that many joint venture fail. This failure cannot be attributed to a certain country or product area, but is due to the difficulties involved in handling a complex marketing tool. So, the

significance of this study is to identify problems faced by joint ventures in Saudi Arabia and to suggest ways to alleviate these problems in future work.

1.3 Previous Study

Many papers and books have been written about construction joint ventures. The literature does not reflect any studies concerning construction-related firms in Saudi Arabia.

"Construction Joint Venture" is a paper presented by David Ashley (1). His study concentrated on the theory of joint venture partnership, formed primarily for sharing construction related risks. The theory for partnership or joint ventures involves simple but realistic assumptions about the individual participants' behaviour. His conclusions were :

a. Due to a reduction in total project contingency, a joint venture of contractors has a competitive advantage over any of the same contractors acting independently.

b. Increased liabilities by each contractor for the action of the others may produce competitive advantages.

c. When project shares are distributed, each partner will have same rate of return on cost.

d. Since optimal project shares may vary with bid amount, they should be jointly determined with the bid amount.

Black (2), in his paper entitled "To Joint Venture Or-Not-Is-It For Your Firm?" discusses the management system by point out many practical problems to help the reader to eliminate guess work, avoid pitfalls and reduce costly trial and error methods. The paper discusses marketing joint venture so he starts by listing major marketing items to be examined, such as required skills, background

knowledge, and necessary contracts for the project. He concludes that after participation in a joint venture, the owner should summarize and analyze whether it is beneficial to get involved in another joint venture, and if so under what circumstances.

Lammie and Shah (19), in a paper with the title "Managing Joint Venture in Large Public Projects", discuss how joint venture helped to finish one of the biggest projects in the United States in a successful way. From many years of joint venture experience, Lammie and Shah summarize the following :

1. With the clear objective of achieving designated revenue, service and dates, all other considerations become secondary.
2. Major organization and staff change was an actual part of the project life style.
3. Each project is unique in itself with the only common denominators being challenge and risk.
4. Any new project starting up from zero base would make a serious error to ignore the experience of other agencies developing comparable systems.

1.4 Objective of the Study

The *MAIN* objectives of this research are to :

1. Undertake comprehensive analysis of joint venture in construction firms, particularly in Eastern Province in the Kingdom of Saudi Arabia.
2. Identify and analyze the problems which faced joint ventures in the construction firms in Saudi Arabia.
3. Test the hypothesis that the Saudi-Saudi joint venture and

Saudi-Foreign joint venture agree on the importance indix ranking of problems facing joint venture

1.5 Procedure

The methodology of this research consists of the following steps :

Step 1 : Study of all types of joint ventures. A literature search is focused on the problems of joint venture.

Step 2 : Data is gathered through site visits, interviews and discussions with both partners, the Saudi and the foreign joint venture and the Saudi - Saudi joint venture.

Step 3 : From the preliminary interviews and the literature review, a questionnaire is formulated.

Step 4 : The questionnaire is distributed to both ventures. The Saudi-Foreign Venture and the Saudi-Saudi Venture.

Step 5 : Data was gathered from the questionnaire and analyzed statistically.

Step 6 : Recommendations based on the analyses of results are suggested.

1.6 Scope and Limitation of the Study

This research is limited to construction firms in Saudi Arabia, in the private sector only. This study will be restricted to the construction firms in the Eastern Province of Saudi Arabia.

1.7 Significance of the Study

The results of this research will highlight the main problems facing joint ventures. From the discussion of these problems, recommendations will be given

to eliminate or reduce joint venture problems. Also, this research will be a base for future study in this field.

1.8 Thesis Organization

This thesis discusses the problem facing joint venture in construction firms. Two distinct types of joint venture are studied : the Saudi-Foreign joint venture and the Saudi-Saudi joint venture.

The first chapter gives general background information about joint venture in the Kingdom of Saudi Arabia, a statement of the study, the objectives of the study, scope and limitations, and the significance of the study. Chapter two discusses the joint venture firms, definition, brief history, reason for undertaking joint venture, type of joint venture and characteristics of joint venture projects. Chapter three discusses the problems facing the joint venture firms in the Eastern Province of the Kingdom. Chapter four discusses the research methodology used in the study. It shows how the questionnaire was designed, the sample size, the selection of collected data, and the method of collecting data from the joint venture firms. The fifth chapter discusses and presents data analysis and the results. Finally, chapter six is divided into summary, conclusion and recommendations for future studies.

CHAPTER TWO

JOINT VENTURE

2.1 Introduction

The rapid boom which occurred between 1974 and 1985 in the Middle East countries encouraged huge construction companies to try to get projects in the area. They found that the most efficient way to do so was to enter into a joint venture with the local contractors and consultants.

2.2 Definition

A joint venture is a cooperation formed by two or more separate entities, usually corporations, which typically allocate ownership based on shares of stock controlled. This definition can be sub-divided into two, contractual and equity joint ventures. The contractual joint venture is an agreement between two or more separate firms for the exchange of performance, while an equity joint venture provides for future joint decision making in a jointly owned company.

2.3 A Brief History

In the past, joint ventures were defined in law as partnerships. They originated as commercial enterprises used for trading purposes. They were one of the oldest ways of transacting business and were originally used as a commercial device by the merchants of ancient Egypt, Babylonia, Phoenica, and Syria to conduct sizeable commercial and trading operations, often overseas. Subsequently, joint ventures were used by the merchants of Great Britain in the Fifteenth and

Sixteenth centuries, and companies of leisure class adventures were organized through joint ventures to carry on trade and to exploit the resources of various far corners of the globe, such as the U.S.A. and India (18).

Use of joint ventures in the United States dates back at least to 1880 when railroads used joint ventures for large scale projects. Partnerships for mining may be even older. Early in the Twentieth century, joint ventures were formed in the United States to pool risks in shipping, gold exploration, and other undertakings. One of the largest projects ever to be conducted as a joint venture involved the appointment and development of crude oil reserves in the Middle East by four American oil companies in ARAMCO. During the 1950s, joint ventures became more popular as vehicles for U.S. business enterprise, and by 1959 at least 345 domestic joint ventures were operated by the 1000 largest corporations (16).

2.4 Reasons for Undertaking Joint Venture

Joint ventures are generally undertaken to meet specific needs of firms to produce a product or offer a service. Application within an industry of a new product might require technical inputs by the firm that developed it and market specific knowledge by the firm in the application industry.

The common reasons most of the firms use joint ventures are as follows :

(a) Government insistence.

(b) The project is too large, financially, for either partner to handle alone.

(c) Neither firm has all of the skills, typically technical and marketing, to make a success of the business on its own.

(d) Only by combining forces can the joint venture partners achieve

satisfactory economies of scale in research and development, production, or marketing.

Many governments have been increasing pressure on foreign companies to participate in local joint ventures rather than establishing wholly owned subsidiaries. This trend has been most pronounced in developing countries but is currently becoming a factor in developed countries as well. Canada and France, for example, are two countries in which foreign firms find significant hurdles in the way of direct foreign investment (3). It seems likely that such nationalism will continue to grow, and that an increasing number of joint ventures will be established because of the government pressure.

Another factor leading to an increase in joint venture usage is the fact that many projects are getting so large that single firms cannot accept the financial risk which they entail. Developing the next generation of jet aircraft has a competition for joint venture partners, because there is simultaneously both a high need for financial risk sharing and a desire to blur the nationality of the finished product, so the nationalistic governments will be willing to purchase it (3).

The traditional rationale for joint ventures has been that the skills of both partners are necessary to make the business venture in question a success. Either company acting alone would not succeed. Another force now seems to be creating joint ventures between the smaller companies in an industry that need to achieve economies of scale similar to those enjoyed by their large competitors. Thus, two computer firms form a joint venture to produce equipment, reducing their aggregate research and development budget and lowering their variable production costs.

One further factor underlying the formation of joint ventures may be that

in recent years, the public has generally been hostile to business and that governments have proved themselves to be unrealistic in many ways, leading to an unwillingness on the part of firms to tackle major projects alone.

From all of the above, reasons for undertaking joint ventures can be summarized as follows :

1. To share the risk.
2. To generate required bonding capacity.
3. To reduce the number of competitors.
4. To satisfy the customer's desires.
5. To give specialized treatment on a job requiring unfamiliar expertise.
6. To give an additional source of manpower.
7. To give an additional source of supervision.
8. To give an additional source of financing.
9. To provide more than one estimate of the job for comparison.
10. To satisfy local customs and practices and provide local representation on a project in an unfamiliar area.

2.5 Type of Joint Venture

Upon close review of case studies, service and production joint ventures were also found to have a strong technology-transfer component. Even construction, exploration, mining and marketing joint venture showed this feature.

2.5.1 Construction and land development joint ventures

Tax and financial considerations, rather than technological complementaries, tend to dominate as motivations behind transfer is usually a minor aspect of

such ventures.

2.5.2 Exploration and drilling joint ventures

The opportunities for exploration and recovery of mineral nodules from the ocean floor have stimulated several major joint ventures. Given the technological risks and the political uncertainty of deep sea exploration and mining, joint ventures appear to be a likely organizational form for exploiting these resources. The prevalence of multiple (three or more) owners, which is rare in most joint venture classes, points to the unique effect of the risk-pooling characteristics of exploration ventures.

2.5.3 Mining

The mining and metals industries have a long history of joint venture activity based on scale indivisibilities, capital requirements, and risk diversifications.

2.5.4 Marketing or Distribution Joint Ventures

Although very few joint ventures are formed for marketing, many involve access to distribution channels. Although many of the medical technology joint ventures do not involve major marketing investments, it is clear from parent descriptions that the distribution channels of pharmaceutical firms served as motivating factors in the creation of many of them.

2.6 Characteristics of Joint Venture Projects

Generally project characteristics which needed to be joint ventured are (22) :

(a) High risk projects

(b) Foreign work

(c) Large scale projects

(d) Projects requiring technology.

In a project with one or more of these characteristics joint ventures and contractors can combine their financial resources and technical expertise to convert a large risky project into an attractive business. In many cases, joint venture increases the number of potential bidders and helps the owner to get the most economical bid.

2.7 Motivations for Joint Ventures

There are many situations where joint ventures could be very useful, and these situations have been grouped into **internal benefits** (such as risk-sharing, get into the market, scale economies, better information and practices and reduction of turnover), **competitive benefits** (such as influence over industry evolution, timing advantage and the opportunity to create a more effective strategic situation), and **strategic benefits** (such as technology, or other skills transfer), as Table 2.1 indicates.

When managers use joint ventures effectively, their firms could build strengths and gain knowledge by cooperating. They could even be the only competitors from forcing their marketplace to change disadvantageously.

2.7.1 Internal Uses

Joint venture should not be seen as a way to hide weaknesses; it is a way of creating internal strengths. It can be resource-aggregating and sharing mechanisms that allow firms to concentrate their resources in those areas where they get the greatest strengths. Huge companies did not care to risk financially by

investing alone. Some projects would never be undertaken without spreading risks and costs. Joint ventures are particularly appropriate where projects involve great uncertainties, costly technological inventions, or high information costs, as in the energy industries. Through them, small firms gain access to larger quantities of capital than would have been available through the ordinary licensing of their technology, as with medical products.

Joint ventures can be a means of utilizing a new manufacturing process, a by-product, or a new capability, and other joint activities are becoming the means for firms to increase efficiency, productivity, scale economies, and other benefits.

Also joint ventures could build internal strengths by offering firms a window on promising technologies, such as solar energy. In addition to providing access to modern technological information, joint ventures could offer better opportunities for engineers to exchange technical staff, as in the electronics and could save firms costly and unnecessary duplicate research and development efforts, so that partners donot both go down the same route. In summary, joint ventures could offer firms many technological, financial, marketing and managerial strengths, if managed effectively.

2.7.2 Competitive Uses

From the benefits mentioned above, joint venture can become an effective competitive weapon. It could be used in new industries because they minimize the capital investments in those firms. On the other hand, joint ventures could rationalize mature industries. They could combine their forces within mature industries to make new form and eliminate excess capacity.

Joint venture could be a means of getting suppliers or customers by

joining forces with different on-going firms, such as when software programmers join forces with hardware firms. Thus, firms could gain new competitive capabilities (or enter new markets) faster, and gain market power. Entry through joint venture may occur more rapidly than individual entry (since less capital is required to enter).

Joint ventures can defend current strategic positions against forces that are too strong for one firm to withstand. Through the combined internal resources of firms, joint ventures could create more effective competitors. Also, they could provide a different culture in the joint venture firm. In brief, the unexplored structural and competitive potential of joint venture strategies could be successful if managed skillfully.

2.7.3 Strategic Uses

Joint ventures can be a way to implement changes in firms' strategic positions. They can increase or decrease firms' domains, stabilize their existing domains, or help them to achieve diverse strategy objectives.

As product lives become increasingly short and the rate of technology accelerates, joint ventures could become important to entries into new businesses that may be of long-term strategic benefit. They can allow firms to enter into attractive but unfamiliar business areas.

In summary, many internal, competitive, and strategic benefits can be gained through joint ventures if managers apply cooperative strategies.

Table 2.1 Motivations for Joint Venture Formation (16)

A. Internal uses

1. Cost and risk sharing
2. Obtain resources where there is no market
3. Obtain financing to supplement firm's debt capacity
4. Share outputs of large minimum efficient scale plants
   a. Avoid wasteful duplication of facilities
   b. Utilize by-products, processes
   c. Share brands, distribution channels, wide product lines.
5. Intelligence : obtain window on new technologies and customers
   a. Superior information exchange
   b. Technological personnel interactions
6. Innovative managerial practices

B. Competitive Uses

1. Influence industry structure's evolution
   a. Development of new industries
   b. Reduce competitors
   c. Rationalize mature industries.
2. Preempt competitors
   a. Gain rapid access to better customers
   b. Capacity expansion or vertical integration
   c. Acquisition of advantageous terms, resources
   d. Coalition with best partners.
3. Defensive response to blurring industry boundaries and globalization
   a. Ease political tensions
   b. Gain access to global networks

4. Creation of more effective competitors
    a. Hybrids possessing parents' strengths
    b. Fewer, more efficient firms
    c. Buffer dissimilar partners

C. Strategic Uses

1. Creation and exploitation of synergies
2. Technology (or other skills) transfer
3. Diversification
    a. Entry into new markets, products, or skills
    b. Rationalization of investment
    c. Leverage-related parents' skills for new uses.

CHAPTER THREE

PROBLEMS FACING JOINT VENTURE

3.1 Introduction

The basic causes of the problem in the joint venture are that joint ventures have more than one partner. So, making recommendations about choosing a partner is a very sensitive task. Every one's taste is different, and the ideal partner for one joint venture may be a disaster in another. One of the greatest problems with partner selection is that many of the characteristics which one might be willing to agree are generally desirable, such as honesty, dependability and trustworthiness, typically only become evident in times of stress. Conversations with managers and a review of the literature did suggest a number of ideas. They are as follows :

1. The more similar the culture of firms forming a shared management joint venture, the easier the venture will be to manage. Culture is considered to have two components, one being the culture of the country in which a company is based, the other is the corporate culture of the particular firm.

2. The more similar in size are the firms of shared management venture, the easier the venture will be to manage. A significant size mismatch between a venture's firms can create a lot of problems for the venture.

3.1.1 The Effects of Cultural Differences

It is probably safe to say that if a joint venture is to be successful, its managers will have to develop into an effective, cohesive, operational team. This collective skill, which has been labelled a company's core skill is likely to be more difficult to develop if the managers in the venture come from both parents rather than just one. It may be particularly difficult if the firms are of different nationality and of markedly different corporate culture. The greater the cultural gap between the firms forming the venture, the more difficult it will be to create the required cohesion.

Managers of different nationalities may have different attitudes to such basic things as the desirability of material wealth, the importance of on-the-job performance, or the desirability of change. The greater the cultural gap between the firm's base countries, the greater the problem.

However, joint ventures between firms in the same industry will be easier to manage than those between partners from different industries.

3.1.2 The Effects of Differences in Parental Size

Size mismatches between parents can contribute to differences in corporate culture which may affect a venture's performance. However, such mismatch can also have a more direct effect on a venture. The most widely published of these relates to the provision of capital to the venture. If a joint venture is to grow quickly, it typically requires infusions of cash. Very often the small firm will be unable to put up such cash while the larger firm may be eager to.

3.1.3 Staffing the Venture

Staffing from both firms would slow the development of a core skill but facilitate good communications and information transfer from both firms to the venture. This would be important to a venture in which both firms had valuable knowledge and skill to offer. If, on the other hand, staffing was done with executives from a single firm, core skill development would be facilitated, but communication with the other firm would be normal. This would be a good solution in a dominant firm venture but would cause problems in a shared management venture.

Since joint venture is a union of two or more parties, several problems will certainly occur. The problems can be divided into two parts :

a) External problems

b) Internal problems.

3.2 External Problems

Joint venture company does not work in an isolated environment. So, there are a lot of contacts with many parties such as the owner and the government regulations. Those factors are called external factors and they are defined as any problems facing the joint venture firm from external forces. They are as follows :

a. Poor Written Contract (6).

b. Payment Delay From the Owner (14).

c. Government Regulations (23).

d. Work Termination (6).

3.2.1 Poor Written Contract

A contract is the basis for any construction projects. There are no standard contract forms used in the market. Usually, contracts are written by people who are not experienced in writing specifications.

Due to the large scale and complex nature of construction, the owner must rely on the contract documents to express his intent regarding project scope, time table and methodology.

A contract document usually consists of six basic elements. They are as follows :

a. Bid form

b. Agreement form

c. General conditions and standard specifications

d. Special provisions

e. Plans and Drawings

f. Addenda

However, private contracts include the following three elements :

1. Agreement

2. Plans and Drawings

3. General and Specification

Errors or incomplete documents could cause the following :

a. Design errors

b. Variation in quantity and measurements

c. Sub-contracting problems

d. Termination of work

e. Suspension of the work

f. Inconsistency of drawing and specifications

3.2.2 Payment Delay From the Owner

Most contracts are highly dependent on receiving payments from the owner. When the owner payment is delayed, it may cause a financial problem to the joint venture firm. Therefore, the owner should be sure of his ability to finance the project. Any delay in progress payment from the owner may require the construction to slow down the work.

3.2.3 Government Regulations

Nowadays, no project can be initiated without getting permits from government agencies. Many problems exist among government agencies due to the lack of information and coordination between agencies. These problems have increased the joint venture difficulties in achieving the requirements of the government. For example, the labor permits are applied for after the contract has been signed. Since the permits will take three months to be approved, most joint ventures try to use labor from the local market if possible.

3.2.4 Work Termination

There are many ways to end construction contracts, full and satisfactory performance by both parties being the usual manner of contract termination. Breach of contract by either party may also cause a contract termination. The following are some causes of contract termination.

(a) Failing to make payment to the contractor

(b) Unreasonable delay of the project from the owner

(c) Default or failure to perform under the contract

(d) Failure to meet financial obligations

(e) Agreement to terminate by both parties.

3.3 Internal Problems

Internal problems are the problems facing joint venture firms from the partner. They are as follows :

(a) Poor Quality of Venture Work (9)

(b) Delay Caused By The Venture (15)

(c) Poor Organization Structure of Venture (16)

(d) Financial Problems of Venture (14)

(e) Poor Communication Between Parties (18)

(f) Inadequate Estimation (18)

(g) Lack of Adequate Preplanning (15)

(h) Lack of Attention & Flexibility (15)

(i) Lack of Policy Agreement (22)

(j) Foreign Venture Headquarters are Abroad (15)

(k) Too Much Paper Work Has To Be Sent To Other Party For Approval (15)

(l) Lack of Adequate Study of Partners Before Forming the Joint Venture (12)

(m) Reaching A Decision Takes A Long Time.

3.3.1 Poor Quality Of Venture Work

The quality of work is an important criterion. Usually owners use this clause to deduct from the payments. There is no standard quality for construction control; so, it depends on the contractor's experience and personality. There are two types of errors :

1. Errors in the architectural design
2. Errors in the main structure.

These errors may result from poor quality of venture work or lack of experience in the field.

3.3.2 Delay Caused By The Venture

Every project has a deadline for completion, beyond which the company must pay a penalty for any delay in completion. Thus, the delay of one partner will damage the joint venture.

3.3.3 Poor Organization Structure Of Venture

The main task of organization is to plan, direct, and control the elements associated with the construction of projects, so that the best combination of operational economy and time efficiency is obtained. So, poor organization structure will cause a lot of problems to the joint venture firm. It is very important for each party to study the other before establishing the joint venture.

3.3.4 Financial Problems Of Venture

Many construction firms within the Kingdom are small, under-financed, and unable to finance payroll and material vendors. So, they make a joint venture with a big foreign company.

When payment from the owner is delayed, it may cause a financial problem to the joint venture firm. On the other hand, financial problems could cause termination of work. Also, it may cause the dissolution of the joint venture.

3.3.5 Poor Communication Between The Parties

Communication is very important in any kind of work. Poor communication between the parties will cause conflict in the joint venture and poor quality work. Therefore, two way communication shall seek to avoid the following problems :

1. Delay of work
2. Work termination.

3.3.6 Inadequate Estimation

Time and cost are very important aspects of job control. Work should be carefully estimated and scheduled in advance to proceed and complete the project within the given time. Any error in estimation could create an overrun in the cost and this may lead to bankruptcy. Errors may occur from the following factors :

(a) Delays caused by venture
(b) Delays caused by the owner
(c) Scheduling errors
(d) Changes in labor and material costs
(e) Variation of currency.

Therefore, all estimations should be done properly and adequately.

3.3.7 Lack Of Adequate Preplanning

Depth of planning is very important to provide any joint venture with a reasonable chance of success. It is needed mostly in complex projects. There are legal agreements, local trading rules, technology exchange rules, labor laws, social legislation and other considerations to contend with. These are important areas of understanding for determining a successful venture. Failure to grasp that joint ventures are complex tools which need to be understanding in business, causes many difficulties.

Both owners and joint venture firm should have clear plans before starting a project. Any errors in these plans or disagreement between them may cause a lot of problems. Poor planning could result from the following factors :

(a) Delay caused by the owner

(b) Delay in payment

(c) Financial problems

(d) Change orders

(e) Poor communication between the parties

(f) Planning errors.

3.3.8 Lack of Attention and Flexibility

There are many kinds of reasons partners fall out, disagree or diverge on policy. The important thing is to realize the reason for this happening within the joint venture framework, and to be prepared to invest time to understand, to adjust and then to negotiate as the situation demands.

The market is changeable from time to time, so good joint venture firms

must be aware of these changes. At the same time, if any of these changes occur, they must be flexible to apply this change. For example, when the value of Riyal falls, firms have to take quick action to overcome the problem.

3.3.9 Lack of Policy Agreement

The general experience is that joint venture partners have most troubles over divided policies, capital increase, investment plans and transfer prices if materials or parts are supplied by one side.

A company's policy must be clear especially when the firm is established. So, when lack of policy agreement occurs in the joint venture, this will lead to the dissolution of the firm.

3.3.10 Foreign Venture Headquarters Are Abroad

Joint venture companies usually exist outside the Kingdom of Saudi Arabia; so, when any information is required from Headquarters, it may take long time.

3.3.11 Too Much Paper Work Has To Be Sent to the Other Party for Approval

When the Headquarters of the foreign venture are abroad, communication and paper work will be affected.

3.3.12 Lack of Adequate Study of Partners Before Forming The Joint Venture

Joint ventures are like any relationships between two parties. Each partner must study the other very carefully before forming the joint venture. The following items must be studied :

1. Financial position

2. Experience
3. Organization structure

3.3.13 Reaching A Decision Takes Long Time

When the joint venture is on a project basis, every partner has to execute his part of the project. So, when a common decision has to be taken, it will take a long time.

Experience suggests that one businessman will remain suspicious of another until the necessary degree of trust and confidence has had time to establish itself in the relationship. However technical are the arrangements, relationships will always be central to its success.

When difficulties occur, they will have to be handled with care, because the aim of joint venture is the continuing motivation of all sides to operate in the long term business.

CHAPTER FOUR

THE SURVEY

The main objective of this research is to investigate the frequent problems which face joint ventures in the construction firms in Eastern Province of Saudi Arabia. Therefore, this chapter includes the research methodology and the sampling techniques to measure the importance of the major problems which face both Saudi and foreign ventures.

4.1 Questionnaire Design

This investigation was undertaken in two stages. The first stage consisted of a comprehensive study of all types of problems facing the joint venture and a literature search focused on the identification of the problems. The second stage included field visits and interviews. This stage focused on data analysis and identification of the most important problems and the most frequent in construction firms. Their analyses led to the formation of the questionnaire which has been distributed personally by the author. Many site visits were made to different construction firms to collect data and information from experienced people in the field. Visits included contractors, consultants and design offices. The data collected from discussions were studied carefully in order to develop the final questionnaire which covers the full dimensions of the subject. Also, it helps the researcher to know how to deal with various interviewing situations and to improve the questioning process.

The questionnaire was carefully designed in the light of previous

investigations and in the framework developed. The researcher depended upon printed copies to carry the two-way communication task (questionnaire and interview). The questionnaire carries both the instructions and the questions for respondents and provides an open block for the respondent to write his comments. The researcher considered both the subject content and the wording of each question in terms of shared vocabulary and clarity. An attempt was made so that each question would be stated in such a way to be easy, short, simple and understandable.

There are two main parts in the questionnaire and a cover page (see Appendix I). The cover page is an introduction to explain the idea and the purpose of the survey as well as the definition of the area of the study. Part "A" includes general information questions including the company's name, the company's nationality and respondent name and position. Also included is general information on the construction firms such as :

1. Role of the firm in construction
2. Number of employees in the joint venture
3. Type of construction
4. Grade of the firm
5. Reasons for entering joint venture
6. Joint venture type

Part "B" concerns the problems facing joint ventures in construction firms. This part includes seventeen different problems facing the joint venture, as follows :

1. Poor written contract
2. Poor quality of venture work

3. Delay caused by the venture
4. Poor organization structure of venture
5. Financial problems of venture
6. Payment delay from the owner
7. Government regulations
8. Poor communication between parties
9. Work termination
10. Inadequate estimation
11. Lack of adequate preplanning
12. Lack of attention and flexibility
13. Lack of policy agreement
14. Foreign venture headquarters are abroad
15. Too much paper work has to be sent to the other party for approval.
16. Lack of adequate study of partners before forming the joint venture.
17. Reaching a decision takes a long time.

4.2 Statistical Sampling

Questionnaires were distributed to construction firms such as consultants, contractors, and designers who are involved in joint venture work either project-wise or company-wise.

4.2.1 Sample size determination

In the selection process, there are three restrictions. The projects studied are limited by the following criteria :

1. Restriction to joint venture firms
2. Restriction to Eastern Province of Saudi Arabia
3. Restriction to construction firms.

Questionnaires were distributed to two types of joint ventures. Each population is considered as a part :

Part I : Foreign-Saudi venture

Part II : Saudi-Saudi venture

For Part I, there are approximately 300 joint venture construction firms in the Eastern Province in Saudi Arabia. The following formula is used to determine sample size of all construction firms :

$$N_1 = [(tS_1/d)^2] / [\,1 + \frac{1}{N}(tS_1/d)^2] \qquad \text{(Eq. 4.1)}$$

where:

N_1 : Sample size

N : population size

t : t@/2 is the abscissa of the normal curve that cuts off an area of @ = 0.05 at the tails. t@/2 = 1.960.

d : The expected error in the estimate. The amount of accuracy (1 - @)% = 0.95.

S : s = pq, p : is the proportion of the characteristic under investigation. The maximum value of p = 1/2. q = 1-p = 1/2.

$$n_1 = [2.02x\frac{0.5}{0.05}]^2/[1 + \frac{1}{300}(2.02x\frac{0.5}{0.05})^2] = 268$$

$n_2 = (268/(1+(268/300)) = 141$

$n_3 = (141/(1+(141/300)) = 96$

$n_4 = (96/(1+(96/300)) = 72$

$n_5 = (72/(1+(72/300)) = 58$

$n_6 = (58/(1+(58/300)) = 49$

$n_7 = (49/(1+(49/300)) = 42$

$n_8 = (42/(1+(42/300)) = 37$

$n_9 = (37/(1+(37/300)) = 33$

$n_{10} = (33/(1+(33/300)) = 30$

It is better to stop here because the difference between n_9 and n_{10} is assumed small. So, the sample size of the construction firms equals 30 firms.

For Part II, there are 150 firms in the Eastern Province. The same formula (Eq. 4.1) is used to get the sample size.

$$n_2 = [2.02x\frac{0.5}{0.05}]^2/[1 + \frac{1}{150}(2.02x\frac{0.5}{0.05})^2] = 108 \qquad \text{(Eq. 4.2)}$$

where: $n_1 = ((1.96x0.5)/0.5)^{**} 2/(1+((1.96x0.5)/0.05)^{**} 2/150) = 108$

$n_2 = (108/(1+(108/150)) = 63$

$n_3 = (63/(1+(63/150)) = 44$

$n_4 = (44/(1+(44/150)) = 34$

$n_5 = (34/(1+(34/150)) = 28$

$n_6 = (28/(1+(28/150)) = 23$

$n_7 = (23/(1+(23/150)) = 20$

It is better to stop here because the difference between n_6 and n_7 is assumed small. So, the sample size of the firms equals 20 firms.

4.2.2 Scoring

Part "A", the questions were concerned with the problems facing the joint

venture firms. The answering of these consist of figures, and the means could be figured for the total answers of each by using the following formula :

$$\overline{X} = (\sum_{i=1}^{n} X_i)/n \qquad \text{(Eq. 4.3)}$$

where:

$\overline{X}$ = The average

X_i = The value given by the ith response

n = Number of responses.

The main part in the questionnaire is Part "B". It concentrates on the problems facing the joint venture in the construction firms. For each problem, the respondents have five options. Each cause has an importance index as follows:

$$\text{Importance Index (IM IND)} = \sum_{i=1}^{4} \frac{(Ai*Xi)}{N} x100\ /4. \qquad \text{(Eq. 4.4)}$$

A_i = constant expressing the weight given to each response, i = 1, 2, 3, 4, 5.

X_i = The variable expressing the degree of importance of each factor.

X_1 = The frequency of "very important" response/responses.

X_2 = The frequency of "important" response/responses.

X_3 = The frequency of "somewhat important" response/responses.

X_4 = The frequency of "somewhat unimportant" response/responses.

X_5 = The frequency of "unimportant" response/responses.

N = Number of responses.

Example

Problem 1 in Part "B"

Saudi - Saudi Joint Venture

Poor written contract

N = 20

Table 4.1 : Survey Results

ANSWER	Xi	Ai	IND=Ai*Xi	AiXi/N
Unimportant	0	5	0	0
Somewhat unimportant	1	1	1	0.05
Somewhat important	2	5	10	0.5
Important	3	5	15	0.75
Very important	4	4	16	0.8
Total		--	42	2.1

$$(\text{IM IND}) = ([\Sigma \text{AiXi}/N] / 4) \times 100\%$$

$$= ([2.1]/4) \times 100\% = 53\%$$

CHAPTER FIVE

DATA ANALYSIS AND RESULTS

Data collected from the questionnaire was analyzed statistically by using a computer program (SAS). This chapter explains how this data was analyzed and discusses the results.

5.1 Statistical Methods

The different methods used for calculating and presenting the survey results are as follows :

1. Tabulation and Cross Tabulation
2. Statistical Techniques
3. Ranking
4. Correlation

5.1.1 Tabulation and Cross Tabulation

Cross tabulation involves placing the survey data into tabular form (a two-way table) so that the functional relationship of these data can be described. In Part "A", the company nationality, role in construction, type of construction, grade as fixed by the Ministry of Commerce, reasons for making a Joint Venture, and type of Joint Venture are crossed with the frequency percentage. The results are shown in Table 5.1. Also, question No. 4 in Part "A" tabulates the number of employees in the Joint Venture firms, and the mean and standard deviation calculated. The results are shown in Table 5.2.

5.1.2 Statistical Techniques

The statistical techniques used in this thesis were to help the researcher in interpretation of the existing information. Table 5.3 to Table 5.25 presents the results of statistical techniques for Part "B" of the questionnaire. The statistical techniques analyzed are given below.

5.1.2.1 The Weighted Mean

The mean, obtained by adding together all values in the distribution and dividing by the total number of all values. This is known as the arithmetical mean.

$$\overline{X} = \sum_{h=1}^{2} W_h \overline{X}_h \qquad \text{(Eq. 5.1)}$$

where:

$\overline{X}$ = The weighted mean

Xh = Mean of hTh population, h = 1, 2

Wh = Nh / N

Nh = Number of responses for hTh population

N = Total number of responses.

5.1.2.2 Standard Deviation

The standard deviation takes into account the size of every value in the distribution and it is useful for further arithmetical processing.

$$Sx = \sqrt{\sum_{h=1}^{4} W_h^2 \, S_h^2} \qquad \text{(Eq. 5.2)}$$

where:

Sx = Standard Deviation

$$S_h^2 = \frac{1}{n_h - 1} \sum_{i=1}^{n_h} (X_{hi} - \overline{X}_h)^2$$

5.1.2.3 The Standard Error of Mean

The standard deviation of the distribution of sample means is known as "the standard error of the mean". It is used to describe the deviation of sample means around their population mean.

$$S_x(\overline{X}) = S_x/\sqrt{N} \qquad \text{(Eq. 5.3)}$$

where:

$S_x(\overline{X})$ = The standard error of mean

S_x = StandardDeviation

N = Total number of responses

5.1.2.4 The Confidence Interval

Samples usually are not perfect reflections of the population from which they were collected because the researcher is never sure how close the sample value is to the population's value. The sample value is called a point estimate and the interval is called a confidence interval and its size depends on the degree of confidence desired in the sample results by the researcher. The confidence coefficient used in this thesis is 99% unless otherwise mentioned. If a large num-

ber of probability samples were taken, 99% of these samples would contain the actual mean of the universe within an interval of 2.093 Sx ($\overline{X}$).

$$95\% \text{ Confidence Interval} = \overline{X} \pm 2.093 \, Sx \, (\overline{X}) \qquad \text{(Eq. 5.4)}$$

For example, Question No. 1 in Part "B" has the following 95% confidence interval :

$$2.9 \pm (2.093 \times .33)$$

$$2.9 \pm 0.69$$

So, the interval are :

The Lower Limit (LL) = 2.21

The Upper Limit (UL) = 3.59

According to the scale used in the analysis of data (see Fig. 5.1), the Confidence Interval can be seen as follows :

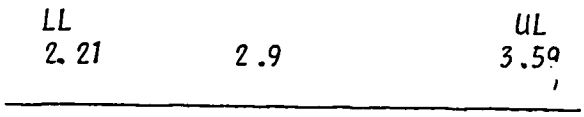


Fig. 5.1

5.1.2.5 Coefficient of Variation

Coefficient of variation measures the precision of the estimater. It shows the variation with respect to the mean

$$C.V. = (Sx/\overline{X}) \times 100\ \% \qquad \text{(Eq. 5.5)}$$

Where:

C.V. = Coefficient of Variation

SX = Standard Deviation

$(\overline{X})$ = The weighted mean

5.1.3 Ranking

Part "B" of the questionnaire which concerns the main causes of the problems facing Joint Ventures, is ranked by measurement of the Importance Index (IM IND). This importance index has a range from 1 to 100 as a percentage.

Rank tables are presented in this Chapter. They are as follows :

1. Company Nationality, Tables 5.26, 5.27, 5.28
2. Role in Construction, Tables 5.29, 5.33
3. Type of Construction, Tables 5.34, 5.39
4. Grade as by Ministry of Commerce, Tables 5.40, 5.46
5. Reason for Making the Joint Venture, Tables 5.47, 5.51
6. Type of Joint Venture, Tables 5.52, 5.55
7. All Table 5.56

One important point to be remembered is that, if two or more problems have the same percentage or rank, we add and then divide the results by the

number of problems having the same rank.

5.1.4 Rank Correlation

Correlation coefficient (r) is used to find the relationship existing among different factors or parties, and the degree of this relationship. A perfect negative relationship has a correlation coefficient equal to (-1). On the other hand, variables with a perfect positive relationship have a correlation coefficient equal to (+1). Thus, the correlation coefficient varies between (-1) and (+1), inclusive, depending on the amount of correlation between the two variables being measured.

There are three methods of correlation coefficient available which measure the extent to which two lists of ranks relate to each other, so they are included in this study. They are Spearman correlation, partial correlation, and multiple correlation.

1. The **Spearman rank** correlation is used to find and compare how well any two parties agree. The following formula is used for the calculation of Spearman rank correlation for the company nationality.

$$r = 1 - \left(\frac{6 \times \sum d^2}{N(N^2 - 1)}\right) \qquad \text{(Eq. 5.6)}$$

Where:

r = Rank correlation coefficient

d = difference between ranks on one variable and ranks on the other variable

N = Number of cases

By applying the Spearman formula to the question 1 (the Saudi, Saudi and Saudi, Foreign joint venture, the formula from Table 5.58) :

$$r_{12} = 1 - [\frac{(6 \times 330)}{17((17^2) - 1)}] = 0.596$$

Where:

r_{12} = The agreement between the Saudi, Saudi Venture and the Saudi, Foreign Venture.

Also, the Spearman rank correlation is used in question 8 in part "A" (Type of joint venture) to find and compare how well any two parties agree while ignoring the third party completely.

By applying the formula, from Table 5.59,

$$r_{12} = 1 - \frac{(6 \times 274}{17((17^2) - 1)} = 0.664$$

$$r_{13} = 1 - \frac{(6 \times 647}{17((17^2) - 1)} = 0.207$$

$$r_{23} = 1 - \frac{(6 \times 577}{17((17^2) - 1)} = 0.293$$

Where:

r_{12} = The agreement between percentage and profit joint venture.

r_{13} = The agreement between percentage and management joint venture.

r_{23} = The agreement between profit and management joint venture.

2. **Partial correlation** is used to find and compare how well any two parties agree while holding the third party constant. The following equations are used for calculations of the type of Joint Venture :

$$r_{12.3} = r_{12} - \frac{(r_{13} x r_{23})}{(1 - r_{13})^2 \ (1 - r_{23})^2} = \frac{0.664 - (0.207 \times 0.293)}{(1 - 0.207.2)^2 \ (1 - 0.293)^2} = 0.645$$

$$r_{13.2} = \frac{r_{13} - (r_{23} x r_{12})}{(1 - r_{23})^2 \ (1 - r_{12})^2} = \frac{0.207 - (0.292 \times 0.664)}{(1 - 0.292)^2 \ (1 - 0.664)^2} = 0.018$$

$$r_{23.1} = \frac{r_{23} - (r_{12} x r_{13})}{(1 - r_{12})^2 \ (1 - r_{13})^2} = \frac{0.293 - (0.664 \times 0.207)}{(1 - 0.664)^2 \ (1 - 0.207)^2} = 0.212$$

Where:

$r_{12.3}$ = The agreement between percentage and profit while the management's rank is held constant.

$r_{13.2}$ = The agreement between percentage and management's while th profit's rank is held constant.

$r_{23.1}$ = The agreement between the profit and the management's while the percentage's rank is held constant.

3. **Multiple correlation** is used to describe the extent of association between the parties when considering one main party with the others. The following equations are used for the calculations :

$$R = r_{12} \times r_{13} \times r_{23} = 0.04$$

$$r_{1.23} = \frac{(r_{12}^2) + (r_{13}^2) - 2R}{1 - (r_{23})^2} = \frac{(0.664)^2 + (0.207)^2 - 2(0.04)}{1 - (0.293)^2} = 0.441$$

$$r_{2.13} = \frac{(r_{12}^2) + (r_{23}^2) - 2R}{1 - (r_{13})^2} = \frac{(0.664)^2 + (0.293)^2 - 2(0.04)}{1 - (0.207)^2} = 0.466$$

$$r_{3.12} = \frac{(r_{13}^2) + (r_{23}^2) - 2R}{1 - (r_{12})^2} = \frac{(0.207)^2 + (0.293)^2 - 2(0.04)}{1 - (0.664)^2} = 0.036$$

Where:

$r_{1.23}$ = The agreement between the percentage and the other type (profit and management) joint venture.

$r_{2.13}$ = The agreement between the profit and the other two types (percentage and management) joint venture.

$r_{3.12}$ = The agreement between the management and the other two types (profit and percentage) joint venture.

5.2 Satisfaction of Restrictions

This study is restricted to the Joint Venture firms (Saudi, Saudi Venture and Saudi, Foreign Venture) in construction in the Eastern Province in the Kingdom of Saudi Arabia. Construction firms include housing, engineering, nonresidential building, industrial construction and other similar work. The limitation to the Eastern Province of Saudi Arabia reflects the main problems related to this part of the Kingdom. The response to these factors might differ from place to place due to the difference in the environmental and legal problems.

5.3 Statistical Results

The main statistical results are given below.

5.3.1 Coefficient of Variation

The predictive values in this research should be considered with care

because the variation of the responses in this study is somewhat large. The reason for this high value of coefficient of variation (C.V.) is that, in answering the questions, the respondents used their experience from different types of construction divisions (housing, engineering, non-residential construction , industrial construction, etc. Also, the questionnaire was distributed to contractors, consultants and design offices, so that the variation comes from their different backgrounds and experiences. For example, for the Saudi, Saudi joint venture, the coefficient of variations range from 85.16% to 40.32%. The highest percentage is for too much paper work has to get approval. On the other hand, the Saudi, foreign joint venture coefficient of variations vary from 76.14% to 29.71%. The highest percentage for delay caused by the venture. This great variation can be attributed to the fact that some respondents have experienced no problem at all, while others have been beset by many problems. This naturally influenced their responses. Also, grade variation has a great effect because Grade one firm does huge projects if we compare it with Grade 5.

5.3.2 Correlation

The correlation results show that the correlation in question one (company's nationality) rank equals 0.976. This high percentage reflects the existing situation. In question eight (Type of Joint Venture), the responses of all parties average agreement between all the parties is equal to 38.8%. This percentage means that responses of all parties reflect the existing situation. The Table shows that the percentage joint venture is the most important party. The management is the second while the profit is the third. This is because most of the joint venture firms make their joint venture on the percentage basis. This is because when two or more different firms try to join in one firm, the best way to join is by percentage. The management joint ventures occur when one venture performs the

management function. In the profit joint venture, one venture will only join in profit so if any losses happened, one venture will handle it.

The correlation table (5.60) shows that the highest agreement is between the percentage and profit joint venture (r_{12} = 0.664). On the other hand, the other agreements are (r_{13} = 0.207) and (r_{23} = 0.293). The results show that to some extent the profit joint ventures do not reflect the existing situation. This is may be due to the Saudi law which states that all partners share the profit and the loss when they form any kind of companies.

The partial correlation shows that when the management is kept constant, the agreement between percentage joint venture and profit joint venture is the highest ($r_{12.3}$ = 0.645). However, when the profit is held constant, the agreement between the percentage and the management joint venture is the lowest. ($r_{13.2}$ = 0.018). These results are emphasized by the multiple correlation. The highest is when the profit joint venture is considered with the other two parties ($r_{2.13}$ = 0.466). The least is when the management joint venture is considered with the other two parties ($r_{3.12}$ = 0.086).

5.3.3 Cross Tabulation

The frequency of Saudi-Saudi joint ventures show the following : In the type of work question, the contractorship has 55%, design and consultant 25%, design and contractor 10%, and consultancy 10%. For type of construction, housing has 5%, engineering 30%, non-residential construction 20%, industrial construction 20%, others such as water and sewage 25%. According to the Grade as specified by the Ministry of Commerce, grade one has 15%, two 20%, three 15%, four 15%, five 10%, and consultancy 25%. The reason for making a

joint venture come out as follows : risk sharing 10%, technology transfer 40%, profit 10%, get into the market 40%. The responses for type of joint venture were percentage 70%, profit 10%, management 20%. The number of employees in the joint venture is presented in Table 5.1.

The frequency of Saudi-Foreign joint ventures show the following : In the type of work question, the contractorship has 47%, design and consultant 17%, design and contractor 33%, and consultancy 3%. For type of construction, housing has 30%, engineering 10%, non-residential construction 20%, industrial construction 20%, others such as water and sewage 20%. According to the Grade as specified by the Ministry of Commerce, grade one has 17%, two 27%, three 3%, four 7%, five 16%, and consultancy 30%. The reason for making a joint venture come out as follows : risk sharing 13%, technology transfer 33%, profit 7%, get into the market 33%. The responses for type of joint venture were percentage 73%, profit 17%, management 10%. The number of employees in the joint venture is presented in Table 5.1.

The cross tabulation shows that the Saudi, Saudi joint ventures account for 40% and the Saudi, Foreign joint venture account for 60% of the companies nationality. In the type of work question, the contractorship has 50%, design and consultant 20%, design and contractor 24%, and consultancy 6%. For type of construction, housing has 20%, engineering 18%, non-residential construction 20%, industrial construction 20%, others such as water and sewage 22%. According to the Grade as specified by the Ministry of Commerce, grade one has 16%, two 24%, three 8%, four 10%, five 14%, and consultancy 28%. The reason for making a joint venture come out as follows : risk sharing 12%, technology transfer 36%, profit 8%, get into the market 36%. The responses for type of joint venture were percentage 72%, profit 14%, management 14%. The number

of employees in the joint venture is presented in Table 5.1.

5.3.4 Hypothesis Testing

The researcher wants to test the hypothesis that the Saudi-Saudi Ventures has the same important index as the Saudi-Foreign Ventures. t-test is used in this study. In this section, the agreement or the differences in their responses will be tested. The hypothesis will be tested by comparing the calculated value of t with the critical test values. There are two hypothesis tests are examined.

a) Hypothesis test for the difference between two means.

b) Hypothesis test of rank correlation.

a) Hypothesis test for the difference between two means. The hypothesis is

$$H_o : L_s = L_n \text{ versus } H_a : L_s \neq L_n$$

The following formula is used to calculate the value of t :

$$t_o = \frac{L_s - L_n}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \qquad \text{(Eq. 5.7)}$$

Where:

S_p = Standard diviation for both Saudi-Saudi joint venture & Saudi-Foriegn joint venture and it is equal to :

$$S_p = \frac{\sqrt{(n_1 - 1)\, S_s^2 + (n_2 - 1)\, S_n^2}}{\sqrt{n_1 + n_2 - 2}}$$

n_1 = the number of observations for the Saudi-Saudi joint venture

n_2 = the number of observations for the Saudi-Foriegn joint venture

S_s = Standard diviation for Saudi-Saudi joint venture

S_n = Standard diviation for Saudi-Foriegn joint venture

t_o = the calculated t - statistic.

The t value can be determined as shown in table 5.61

With the condition that the variances of Ls & Ln are the same, decision rule is as follows : The critical test value t = 2.02 (from t table for $\alpha/2 = 0.025$, So, if

$t_o < t\,\alpha$ then accept Ho

$t_o > t\,\alpha$ then reject Ho

Since the computed value of t for Question No. 1 (see Table 5.61) exceeds the values from the t table, we can reject the null hypothesis, and conclude that the parties do not agree on the importance index of the problems facing the joint venture. The other questions, both parties agree on the importance index.

b) Hypothesis test of rank correlation.

The null hypothesis states that no correlation exists between the parties which means that the parties do not agree on the importance of the problems facing the joint venture. The hypothesis is

$$H_o\ \rho = 0 \text{ versus } H_a\ \rho \neq 0$$

or

H_o : Saudi-Saudi vs. Saudi, Foreign have same **IMPORTANCE INDEX**

H_a : Saudi-Saudi vs. Saudi, Foreign do not have same **IMPORTANCE INDEX**

The following formula is used to calculate the value of t for testing H_o

$$t_o = \frac{r - \rho}{S_r} \qquad \text{(Eq. 5.8)}$$

Where:

S_r = Standard error of the correlation coefficient

$$S_r = \frac{\sqrt{1 - r^2}}{\sqrt{n - 2}}$$

r = the sample Spearman correlation

n = the number of observations

ρ = the population correlation which has zero value as stated by the null hypothesis

t_o = the calculated t - statistic.

By substituting the r value in equation (5.6) and (5.7), the t value can be determined and its equale 5.14.

The decision rule with the condition that the variances of L_s and L_n are the same as follows : The critical test value t = 2.02 (from t table for $\alpha/2$ =

0.025, df = n - 2 = 48, and a two-sided test). So, if

$t_o < t\,\alpha$ then accept H_o

$t_o > t\,\alpha$ then reject Ho

After calculating the t-value, it has been observed that t = 2.02

$t_o = 5.14$

and so $t_o > t\,\alpha$ Therefore, we tend to reject H_o.

5.5 Major Findings

This section discusses the results after they were analyzed and tabulated.

The results in Part "A" of the questionnaire show that the frequency for Saudi-Saudi and Saudi-Foreign as Table 5.1 of type of joint venture (percentage) has the highest score of 72%. Role in construction (contractorship) has the second highest score of 50%. Technology transfer and get into the market in reason for making joint venture have 36%. Grade as specified by the Ministry of Commerce, consultant have 28%.

The analysis of Part "B" of the questionnaire, which deals with the problems which face the joint venture, shows the ranking of the seventeen problems in terms of importance index for both Saudi-Saudi joint venture and Saudi-Foreign joint venture. For Saudi-Saudi joint venture, the problems rank as the following :

1. Payment delay from the owner
2. Government regulations
3. Poor organization structure of venture
4. Financial problems of venture

5. Lack of policy agreement
6. Inadequate estimation
7. Lack of adequate study of partners before forming the joint venture
8. Poor communication between parties
9. Work termination
10. Reaching a decision takes a long time
11. Poor written contract
12. Poor quality of venture work
13. Lack of adequate preplanning
14. Lack of attention and flexibility
15. Delay caused by the venture
16. Too much paper work has to be sent to the other party for approval
17. Foreign venture Headquarters are abroad.

Importance index percentages is listed in Table 5.26.

For Saudi-Foreign joint venture , the problems rank as follows :

1. Poor written contract
2. Lack of adequate study of partners before forming the joint venture
3. Government regulations
4. Payment delay from the owner
5. Lack of adequate preplanning
6. Financial problems of venture
7. Inadequate estimation
8. Lack of policy agreement
9. Work termination
10. Reaching a decision takes a long time
11. Poor communication between parties

12. Lack of attention and flexibility
13. Poor organization structure of venture
14. Poor quality of venture work
15. Delay caused by the venture
16. Too much paper work has to be sent to the other party for approval
17. Foreign venture Headquarters are abroad.

Importance index percentages is listed in Table 5.27.

For company nationality, the questionnaire results show that payment delay from owner is given the highest rank and scored 75.25%. When the payment is delayed, many problems will face the joint venture firm such as a cash flow problem, scheduling and estimation, or work termination.

Poor written contract takes the second rank with 74%. This result is expected because the documents are the basis for any project. There is no standard contract used in the market. Usually, contracts are written by people who are inexperienced in writing specifications. Often, no clauses are written in these contracts for changes, termination or suspension. As a result, the parties do not know what their responsibilities are.

Government regulation had the third highest score weighing 73%. This is due to some regulations implemented during the contract, such as when the government applies new taxes on imported goods, materials and equipment. Thus, when a joint venture firm makes its estimation for a certain project, they cannot tell what will be coming in the future. Fluctuations in currency values are also important. Most contracts are denominated in Saudi Riyals, causing problems if the currency falls in value.

For the remaining ranks, see Table 5.28.

Table 5.1 : FREQUENCY CROSS TABULATION

QUESTIONS		SAUDI-SAUDI PERCENT %	SAUDI-FOREIGN PERCENT %	ALL PERCENT %
ROLE IN CONSTRUCTION	CONTRACTORSHIP	55 %	47 %	50 %
	DESIGN & CONSULTANCY	25 %	17 %	20 %
	DESIGN & CONTRACTOR	10 %	33 %	24 %
	CONSULTANT	10 %	3 %	6 %
TYPE IN CONSTRUCTION	HOUSING	5 %	30 %	20 %
	ENGINEERING	30 %	10 %	18 %
	NONRESIDENTIAL CONST	20 %	20 %	20 %
	INDUSTRIAL CONST	20 %	20 %	20 %
	OTHERS	25 %	20 %	22 %
GRADE AS SPECIFIED BY MINISTRY OF COMMERCE	ONE	15 %	17 %	16 %
	TWO	20 %	27 %	24 %
	THREE	15 %	3 %	8 %
	FOUR	15 %	7 %	10 %
	FIVE	10 %	16 %	14 %
	CONSULTANT	25 %	30 %	28 %
REASON FOR MAKING J.V	RISK SHARING	10 %	27 %	12 %
	TECHNOLOGY TRANSFER	40 %	33 %	36 %
	PROFIT	10 %	7 %	8 %
	GET INTO MARKET	40 %	33 %	36 %
TYPE OF J.V	PERCENTAGE	70 %	73 %	72 %
	PROFIT	10 %	17 %	14 %
	MANAGMENT	20 %	10 %	14 %

Table 5.3 : MEAN, S.D, S.E, C.I & C.V

BY SAUD-SAUDI VENTURE

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	20	2.10	1.48	0.33	2.10 +- 0.85	70.48
2	20	2.10	1.25	0.28	2.10 +- 0.72	59.52
3	20	1.90	1.29	0.29	1.90 +- 0.75	67.89
4	20	2.75	1.45	0.32	2.75 +- 0.82	52.73
5	20	2.60	1.27	0.28	2.60 +- 0.72	48.85
6	20	3.15	1.27	0.28	3.15 +- 0.72	40.32
7	20	2.80	1.28	0.29	2.80 +- 0.75	45.71
8	20	2.35	1.04	0.23	2.35 +- 0.59	44.26
9	20	2.25	1.25	0.28	2.25 +- 0.72	55.56
10	20	2.45	1.23	0.28	2.45 +- 0.72	50.20
11	20	2.00	1.12	0.25	2.00 +- 0.64	56.00
12	20	2.00	1.12	0.25	2.00 +- 0.64	56.00
13	20	2.50	1.15	0.26	2.50 +- 0.67	46.00
14	20	1.30	0.98	0.22	1.30 +- 0.57	75.38
15	20	1.55	1.32	0.30	1.55 +- 0.77	85.16
16	20	2.30	1.35	0.30	2.30 +- 0.77	58.70
17	20	2.15	1.35	0.30	2.15 +- 0.77	62.79

Table 5.4 : MEAN, S.D, S.E, C.I & C.V

BY SAUD-FOREIGN VENTURE

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	30	3.50	1.04	0.19	3.50 +- 0.49	29.71
2	30	2.33	1.56	0.28	2.33 +- 0.73	66.95
3	30	1.97	1.50	0.27	1.97 +- 0.71	76.14
4	30	2.37	1.35	0.25	2.37 +- 0.63	56.96
5	30	2.70	1.44	0.26	2.70 +- 0.68	53.33
6	30	2.87	1.25	0.23	2.87 +- 0.59	43.55
7	30	3.00	1.17	0.21	3.00 +- 0.55	39.00
8	30	2.43	1.33	0.24	2.43 +- 0.63	54.73
9	30	2.53	1.50	0.27	2.53 +- 0.71	59.29
10	30	2.70	1.42	0.26	2.70 +- 0.67	52.59
11	30	2.77	1.48	0.27	2.77 +- 0.70	53.43
12	30	2.43	1.45	0.26	2.43 +- 0.68	59.67
13	30	2.63	1.45	0.26	2.63 +- 0.68	55.13
14	30	1.77	1.22	0.22	1.77 +- 0.57	68.93
15	30	1.87	1.31	0.24	1.87 +- 0.62	70.05
16	30	3.23	1.05	0.19	3.23 +- 0.49	32.51
17	30	2.53	1.57	0.29	2.53 +- 0.74	62.06

Table 5.5 : MEAN, S.D, S.E, C.I, C.V

BY ROLE IN CONSTRUCTION

CONTRACTORSHIP

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	25	2.76	1.33	0.27	2.76 +- 0.68	48.19
2	25	2.72	1.14	0.23	2.72 +- 0.59	41.91
3	25	2.20	1.35	0.27	2.20 +- 0.70	61.36
4	25	2.92	1.08	0.22	2.92 +- 0.56	36.99
5	25	2.92	1.12	0.22	2.92 +- 0.58	38.36
6	25	3.16	1.18	0.24	3.16 +- 0.61	37.34
7	25	3.28	1.17	0.23	3.28 +- 0.60	35.67
8	25	2.76	0.93	0.19	2.76 +- 0.48	33.70
9	25	2.88	1.30	0.26	2.88 +- 0.67	45.14
10	25	3.18	1.04	0.21	3.18 +- 0.54	32.70
11	25	2.84	1.18	0.24	2.84 +- 0.61	41.55
12	25	2.64	1.19	0.24	2.64 +- 0.61	45.08
13	25	2.68	1.14	0.23	2.68 +- 0.59	42.54
14	25	1.68	1.28	0.26	1.68 +- 0.66	76.19
15	25	1.92	1.19	0.24	1.92 +- 0.61	61.98
16	25	3.08	1.12	0.22	3.08 +- 0.58	36.36
17	25	3.12	1.09	0.22	3.12 +- 0.56	34.94

Table 5.6 : MEAN, S.D, S.E, C.I, C.V

BY ROLE IN CONSTRUCTION

DESIGN & CONSULTANCY

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	10	3.20	1.69	0.53	3.20 + 1.38 −	52.81
2	10	1.00	1.33	0.42	1.00 + 1.08 −	133.00
3	10	1.10	1.52	0.48	1.10 + 1.24 −	138.18
4	10	1.60	1.71	0.54	1.60 + 1.39 −	106.88
5	10	2.10	1.66	0.52	2.10 + 1.35 −	79.05
6	10	2.20	1.32	0.42	2.20 + 1.07 −	60.00
7	10	2.10	1.20	0.38	2.10 + 0.98 −	57.14
8	10	1.70	1.64	0.52	1.70 + 1.34 −	96.47
9	10	1.50	0.97	0.31	1.50 + 0.79 −	64.67
10	10	1.70	1.42	0.45	1.70 + 1.16 −	83.53
11	10	1.50	1.58	0.50	1.50 + 1.29 −	105.33
12	10	1.40	1.35	0.43	1.40 + 1.10 −	96.43
13	10	2.00	1.56	0.49	2.00 + 1.27 −	78.00
14	10	1.50	1.08	0.34	1.50 + 0.88 −	72.00
15	10	0.70	1.25	0.40	0.70 + 1.02 −	178.57
16	10	2.20	1.62	0.51	2.20 + 1.32 −	73.64
17	10	1.30	1.42	0.45	1.30 + 1.16 −	109.23

Table 5.7 : MEAN, S.D, S.E, C.I, C.V

BY ROLE IN CONSTRUCTION

DESIGN & CONTRACTOR

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	12	3.33	1.15	0.33	3.33 +- 0.85	34.53
2	12	2.17	1.64	0.47	2.17 +- 1.22	75.58
3	12	1.83	1.27	0.37	1.83 +- 0.94	69.40
4	12	2.08	1.31	0.38	2.08 +- 0.97	62.98
5	12	2.58	1.56	0.45	2.56 +- 1.16	60.47
6	12	3.08	1.31	0.38	3.08 +- 0.97	42.53
7	12	3.00	0.95	0.27	3.00 +- 0.71	31.67
8	12	2.17	1.19	0.34	2.17 +- 0.88	54.84
9	12	2.17	1.64	0.47	2.17 +- 1.22	75.58
10	12	2.42	1.51	0.44	2.42 +- 1.12	62.40
11	12	2.33	1.44	0.42	2.33 +- 1.07	61.80
12	12	2.17	1.40	0.40	2.17 +- 1.04	64.52
13	12	2.83	1.53	0.44	2.83 +- 1.14	54.06
14	12	1.33	0.98	0.28	1.33 +- 0.73	73.68
15	12	2.17	1.34	0.39	2.17 +- 1.00	61.75
16	12	2.83	1.03	0.30	2.83 +- 0.77	36.40
17	12	1.75	1.42	0.41	1.75 +- 1.06	81.14

Table 5.8 : MEAN, S.D, S.E, C.I, C.V

BY ROLE IN CONSTRUCTION

CONSULTANT

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	3	2.00	2.00	1.15	2.00 ± 2.97	100.00
2	3	2.67	1.15	0.66	2.67 ± 1.71	43.07
3	3	3.00	1.00	0.58	3.00 ± 1.49	33.33
4	3	4.00	0.00	0.00	4.00 ± 0.00	0.00
5	3	2.67	1.53	0.88	2.67 ± 2.27	57.30
6	3	3.67	0.58	0.33	3.67 ± 0.86	15.75
7	3	2.33	1.53	0.88	2.33 ± 2.27	65.67
8	3	2.67	1.15	0.66	2.67 ± 1.71	43.07
9	3	2.67	1.15	0.66	2.67 ± 1.71	43.07
10	3	2.33	1.53	0.88	2.33 ± 2.27	65.67
11	3	3.00	1.00	0.58	3.00 ± 1.49	33.33
12	3	2.33	1.53	0.88	2.67 ± 2.27	65.67
13	3	2.67	1.15	0.66	2.67 ± 1.71	43.07
14	3	2.00	1.00	0.58	2.00 ± 1.49	50.00
15	3	2.00	1.00	0.58	2.00 ± 1.49	50.00
16	3	3.33	1.15	0.66	3.33 ± 1.71	34.53
17	3	2.33	2.08	1.20	2.33 ± 3.09	89.27

Table 5.9 : MEAN, S.D, S.E, C.I & C.V

FOR TYPE OF CONSTRUCTION (HOUSING)

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	10	2.90	1.37	0.43	2.9 +- 1.12	47.24
2	10	2.10	1.52	0.48	2.1 +- 1.24	72.38
3	10	2.10	1.52	0.48	2.1 +- 1.24	72.38
4	10	2.40	0.97	0.31	2.4 +- 0.79	40.42
5	10	2.50	1.08	0.34	2.5 +- 0.88	43.20
6	10	3.30	0.67	0.21	3.3 +- 0.55	20.30
7	10	3.00	1.15	0.36	3.0 +- 0.94	38.33
8	10	2.50	1.08	0.34	2.5 +- 0.88	43.20
9	10	2.40	1.43	0.45	2.4 +- 1.16	59.58
10	10	2.90	1.29	0.41	2.9 +- 1.05	44.48
11	10	3.00	1.15	0.36	3.0 +- 0.94	38.33
12	10	2.60	1.35	0.43	2.6 +- 1.10	51.92
13	10	2.30	1.34	0.42	2.3 +- 1.09	58.26
14	10	1.40	0.97	0.31	1.4 +- 0.79	69.29
15	10	2.30	1.34	0.42	2.7 +- 1.09	58.26
16	10	3.30	1.06	0.34	3.3 +- 0.86	32.12
17	10	3.10	1.37	0.43	3.1 +- 1.12	44.19

Table 5.10 : MEAN, S.D, S.E, C.I & C.V

FOR TYPE OF CONSTRUCTION (ENGINEERING)

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	9	2.22	1.79	0.60	2.22 ± 1.54	80.63
2	9	2.00	1.80	0.60	2.0 ± 1.55	90.00
3	9	1.89	1.62	0.54	1.89 ± 1.39	85.71
4	9	2.56	1.60	0.53	2.56 ± 1.37	62.50
5	9	2.89	1.54	0.51	2.89 ± 1.32	53.29
6	9	2.67	1.41	0.47	2.67 ± 1.21	52.81
7	9	3.00	0.71	0.24	3.00 ± 0.61	23.67
8	9	2.00	1.32	0.44	2.0 ± 1.13	66.00
9	9	2.56	1.01	0.34	2.56 ± 0.87	39.61
10	9	2.67	1.50	0.50	2.67 ± 1.29	56.18
11	9	2.33	1.66	0.55	2.33 ± 1.42	71.24
12	9	2.22	1.48	0.49	2.22 ± 1.27	66.67
13	9	2.78	1.39	0.46	2.78 ± 1.19	50.00
14	9	2.00	1.00	0.33	2.0 ± 0.86	50.00
15	9	1.78	1.39	0.46	1.78 ± 1.19	78.09
16	9	2.44	1.59	0.53	2.44 ± 1.36	65.16
17	9	2.11	1.69	0.56	2.11 ± 1.45	80.09

Table 5.11 : MEAN, S.D, S.E, C.I, & C.V

FOR TYPE OF CONSTRUCTION

(NONRESIDENTIAL BUILDING)

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	10	3.20	0.92	0.29	3.2 ± 0.75	28.75
2	10	2.30	1.06	0.34	2.3 ± 0.86	46.09
3	10	1.80	1.03	0.33	1.8 ± 0.84	57.22
4	10	2.60	1.65	0.52	2.6 ± 1.34	63.46
5	10	2.90	1.37	0.43	2.9 ± 1.12	47.24
6	10	3.40	0.84	0.27	3.4 ± 0.68	24.71
7	10	2.10	1.52	0.48	2.1 ± 1.24	72.38
8	10	2.70	1.25	0.40	2.7 ± 1.02	46.30
9	10	2.70	1.42	0.45	2.7 ± 1.16	52.59
10	10	2.00	1.49	0.47	2.0 ± 1.21	74.50
11	10	2.30	1.42	0.45	2.3 ± 1.16	61.74
12	10	2.00	1.25	0.40	2.0 ± 1.02	62.50
13	10	2.90	1.20	0.38	2.9 ± 0.98	41.38
14	10	1.30	1.25	0.40	1.3 ± 1.02	96.15
15	10	1.40	1.17	0.37	1.4 ± 0.95	83.57
16	10	3.10	1.19	0.38	3.1 ± 0.97	38.39
17	10	2.20	1.55	0.49	2.2 ± 1.26	70.45

Table 5.12 : MEAN, S.D, S.E, C.I, & C.V

FOR TYPE OF CONSTRUCTION

(INDUSTRIAL CONSTRUCTION)

	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	10	2.70	1.89	0.60	2.7 ± 1.54	70.00
2	10	2.30	1.42	0.45	2.3 ± 1.16	61.74
3	10	1.80	1.48	0.47	1.8 ± 1.21	82.22
4	10	2.20	1.55	0.49	2.2 ± 1.26	70.45
5	10	2.30	1.57	0.50	2.3 ± 1.28	68.26
6	10	2.70	1.70	0.54	2.7 ± 1.38	62.96
7	10	3.00	1.33	0.42	3.0 ± 1.08	44.33
8	10	2.20	1.40	0.44	2.2 ± 1.14	63.64
9	10	1.70	1.83	0.58	1.7 ± 1.49	107.65
10	10	2.50	1.51	0.48	2.5 ± 1.23	60.40
11	10	2.10	1.45	0.46	2.1 ± 1.18	69.05
12	10	2.00	1.25	0.40	2.0 ± 1.02	62.50
13	10	2.40	1.43	0.45	2.4 ± 1.16	59.58
14	10	1.20	1.32	0.42	1.2 ± 1.07	110.00
15	10	1.00	1.15	0.36	1.0 ± 0.94	115.00
16	10	2.10	1.20	0.38	2.1 ± 0.98	57.14
17	10	1.90	1.52	0.48	1.9 ± 1.24	80.00

Table 5.13 : MEAN, S.D, S.E, C.I, C.V

FOR GRADE ONE

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	8	3.2	1.39	0.49	3.2 ± 1.27	43.44
2	8	1.5	1.51	0.53	1.5 ± 1.37	100.67
3	8	1.2	1.16	0.41	1.2 ± 1.06	96.67
4	8	1.4	1.19	0.42	1.4 ± 1.08	85.00
5	8	2.2	1.16	0.41	2.2 ± 1.06	52.73
6	8	2.8	1.16	0.41	2.8 ± 1.06	41.43
7	8	2.2	1.49	0.53	2.2 ± 1.36	67.73
8	8	2.6	0.92	0.33	2.6 ± 0.84	35.38
9	8	2.1	1.55	0.55	2.1 ± 1.41	73.81
10	8	1.8	1.28	0.45	1.8 ± 1.17	71.11
11	8	2.0	1.41	0.50	2.0 ± 1.28	70.50
12	8	1.9	1.25	0.44	1.9 ± 1.14	65.79
13	8	2.2	1.28	0.45	2.2 ± 1.17	58.18
14	8	2.1	0.64	0.23	2.1 ± 0.58	30.48
15	8	1.5	1.60	0.57	1.5 ± 1.46	106.67
16	8	2.1	1.36	0.48	2.1 ± 1.24	64.76
17	8	1.9	1.64	0.58	1.9 ± 1.49	86.32

Table 5.14 : MEAN, S.D, S.E, C.I, C.V

FOR GRADE TWO

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	12	3.2	1.14	0.33	3.2 ± 0.85	35.62
2	12	2.7	1.06	0.31	2.7 ± 0.79	39.26
3	12	2.6	1.24	0.36	2.6 ± 0.92	47.69
4	12	3.2	1.19	0.34	3.2 ± 0.88	37.19
5	12	3.4	0.90	0.26	3.4 ± 0.67	26.47
6	12	3.3	0.89	0.26	3.3 ± 0.66	26.97
7	12	3.6	0.67	0.19	3.6 ± 0.50	18.61
8	12	2.9	0.79	0.23	2.9 ± 0.59	27.24
9	12	2.9	1.24	0.36	2.9 ± 0.92	42.76
10	12	3.1	1.00	0.29	3.1 ± 0.74	32.26
11	12	3.0	1.04	0.30	3.0 ± 0.77	34.67
12	12	2.2	0.94	0.27	2.2 ± 0.70	42.73
13	12	2.9	1.08	0.31	2.9 ± 0.80	37.24
14	12	2.3	1.07	0.31	2.3 ± 0.80	46.52
15	12	2.7	0.62	0.18	2.7 ± 0.46	22.96
16	12	3.2	0.94	0.27	3.2 ± 0.70	29.38
17	12	3.2	1.34	0.39	3.2 ± 1.00	41.88

Table 5.15 : MEAN, S.D, S.E, C.I, C.V

FOR GRADE THREE

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	4	1.7	2.06	1.03	1.7 +- 2.65	121.18
2	4	2.0	1.63	0.82	2.0 +- 2.10	81.50
3	4	1.5	0.58	0.29	1.5 +- 0.75	38.67
4	4	2.7	1.26	0.63	2.7 +- 1.62	46.67
5	4	2.7	0.96	0.48	2.7 +- 1.24	35.56
6	4	4.0	0.00	0.00	4.0 +- 0.00	0.00
7	4	3.0	1.41	0.71	3.0 +- 1.82	47.00
8	4	2.2	0.50	0.25	2.2 +- 0.64	22.73
9	4	1.7	2.06	1.03	1.7 +- 2.65	121.18
10	4	3.2	1.50	0.75	3.2 +- 1.93	46.88
11	4	2.0	0.82	0.41	2.0 +- 1.06	41.00
12	4	2.5	1.00	0.50	2.5 +- 1.29	40.00
13	4	2.5	1.00	0.50	2.5 +- 1.29	40.00
14	4	0.5	1.00	0.50	0.5 +- 1.29	200.00
15	4	0.7	1.50	0.75	0.7 +- 1.93	214.29
16	4	2.2	1.50	0.75	2.2 +- 1.93	68.18
17	4	2.2	0.96	0.48	2.2 +- 1.24	43.64

Table 5.16 : MEAN, S.D, S.E, C.I, C.V

FOR GRADE FOUR

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	5	1.6	1.67	0.75	1.6 + 1.92 −	104.38
2	5	1.6	1.52	0.68	1.6 + 1.75 −	95.00
3	5	1.6	1.52	0.68	1.6 + 1.75 −	95.00
4	5	2.2	2.05	0.92	2.2 + 2.36 −	93.18
5	5	1.6	1.51	0.68	1.6 + 1.74 −	94.38
6	5	2.2	2.05	0.92	2.2 + 2.36 −	93.18
7	5	1.8	1.63	0.73	1.8 + 1.88 −	90.56
8	5	1.4	1.34	0.60	1.4 + 1.54 −	95.71
9	5	2.0	1.22	0.55	2.0 + 1.40 −	61.00
10	5	1.2	1.30	0.58	1.2 + 1.50 −	108.33
11	5	1.8	1.64	0.73	1.8 + 1.89 −	91.11
12	5	1.6	1.82	0.81	1.6 + 2.10 −	113.75
13	5	2.2	1.48	0.66	2.2 + 1.70 −	67.27
14	5	0.8	0.84	0.38	0.8 + 0.97 −	105.00
15	5	1.0	1.22	0.55	1.0 + 1.40 −	122.00
16	5	2.2	2.05	0.92	2.2 + 2.36 −	93.18
17	5	1.4	1.34	0.60	1.4 + 1.54 −	95.71

Table 5.17 : MEAN, S.D, S.E, C.I, C.V

FOR GRADE FIVE

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	7	3.3	0.95	0.36	3.3 ± 0.92	28.79
2	7	2.3	1.60	0.60	2.3 ± 1.56	69.57
3	7	2.0	1.91	0.72	2.0 ± 1.86	95.50
4	7	2.7	1.25	0.47	2.7 ± 1.22	46.30
5	7	2.7	1.50	0.57	2.7 ± 1.46	55.56
6	7	2.0	1.29	0.49	2.0 ± 1.26	64.50
7	7	3.1	0.90	0.34	3.1 ± 0.88	29.03
8	7	2.4	1.27	0.48	2.4 ± 1.24	52.92
9	7	2.3	1.50	0.57	2.3 ± 1.46	65.22
10	7	3.1	1.07	0.40	3.1 ± 1.04	34.52
11	7	2.4	1.72	0.65	2.4 ± 1.67	71.67
12	7	2.0	1.41	0.53	2.0 ± 1.37	70.50
13	7	3.0	1.41	0.53	3.0 ± 1.37	47.00
14	7	1.4	0.98	0.37	1.4 ± 0.95	70.00
15	7	1.4	0.98	0.37	1.4 ± 0.95	70.00
16	7	3.3	0.76	0.29	3.3 ± 0.74	23.03
17	7	2.9	1.46	0.55	2.9 ± 1.42	50.34

Table 5.18 : MEAN, S.D, S.E, C.I, C.V

FOR CONSULTANT

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	14	3.1	1.29	0.34	3.1 ± 0.89	41.61
2	14	2.5	1.51	0.40	2.5 ± 1.04	60.40
3	14	2.0	1.47	0.39	2.0 ± 1.01	73.50
4	14	2.6	1.28	0.34	2.6 ± 0.88	49.23
5	14	2.6	1.60	0.43	2.6 ± 1.10	61.54
6	14	3.3	1.07	0.29	3.3 ± 0.74	32.42
7	14	3.0	1.04	0.28	3.0 ± 0.72	34.67
8	14	2.2	1.58	0.42	2.2 ± 1.09	71.82
9	14	2.6	1.34	0.36	2.6 ± 0.92	51.54
10	14	2.7	1.33	0.36	2.7 ± 0.92	49.26
11	14	2.6	1.50	0.40	2.6 ± 1.03	57.69
12	14	2.4	1.55	0.41	2.4 ± 1.07	64.58
13	14	2.4	1.60	0.43	2.4 ± 1.10	66.67
14	14	1.3	1.20	0.32	1.3 ± 0.83	92.31
15	14	1.7	1.33	0.36	1.7 ± 0.92	78.24
16	14	3.2	0.97	0.26	3.2 ± 0.67	30.31
17	14	2.1	1.52	0.41	2.1 ± 1.05	72.38

Table 5.19 : MEAN, S.D, S.E, C.I, C.V

FOR WHY MAKING JOINT VENTURE

(RISK SHARING)

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	6	3.0	0.89	0.36	3.0 +- 0.94	29.67
2	6	1.8	1.33	0.54	1.8 +- 1.40	73.89
3	6	1.7	1.37	0.56	1.7 +- 1.44	80.59
4	6	2.3	1.03	0.42	2.3 +- 1.08	44.78
5	6	2.7	0.52	0.21	2.7 +- 0.55	19.26
6	6	2.5	1.22	0.50	2.5 +- 1.28	48.80
7	6	2.7	1.21	0.49	2.7 +- 1.27	44.81
8	6	3.2	0.41	0.17	3.2 +- 0.43	12.81
9	6	3.0	0.89	0.36	3.0 +- 0.94	29.67
10	6	2.7	1.21	0.49	2.7 +- 1.27	44.81
11	6	2.3	1.51	0.62	2.3 +- 1.59	65.65
12	6	3.0	1.10	0.45	3.0 +- 1.16	36.67
13	6	3.5	0.55	0.22	3.5 +- 0.58	15.71
14	6	1.0	0.63	0.26	1.0 +- 0.66	63.00
15	6	1.5	1.22	0.50	1.5 +- 1.28	81.33
16	6	3.5	0.55	0.22	3.5 +- 0.58	15.71
17	6	3.3	1.21	0.49	3.3 +- 1.27	36.67

Table 5.20 : MEAN, S.D, S.E, C.I, C.V

FOR WHY MAKING JOINT VENTURE

FOR TECHNOLOGY TRANSFER

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	18	3.3	1.28	0.30	3.3 ± 0.78	38.79
2	18	1.6	1.46	0.34	1.6 ± 0.89	91.25
3	18	1.6	1.65	0.39	1.6 ± 1.00	103.13
4	18	3.1	1.68	0.40	3.1 ± 1.02	54.19
5	18	2.4	1.62	0.38	2.4 ± 0.98	67.50
6	18	2.4	1.38	0.33	2.4 ± 0.84	57.50
7	18	2.9	1.28	0.30	2.9 ± 0.78	44.14
8	18	2.3	1.60	0.38	2.3 ± 0.97	69.57
9	18	2.3	1.49	0.35	2.3 ± 0.90	64.78
10	18	2.1	1.28	0.30	2.1 ± 0.78	60.95
11	18	1.9	1.53	0.36	1.9 ± 0.93	80.53
12	18	1.7	1.41	0.33	1.7 ± 0.86	82.94
13	18	2.4	1.58	0.37	2.4 ± 0.96	65.83
14	18	1.7	1.07	0.25	1.7 ± 0.65	62.94
15	18	1.4	1.46	0.34	1.4 ± 0.89	104.29
16	18	2.6	1.38	0.33	2.6 ± 0.84	53.08
17	18	2.0	1.64	0.39	2.0 ± 1.00	82.00

Table 5.21 : MEAN, S.D, S.E, C.I, C.V

FOR WHY MAKING JOINT VENTURE

PROFIT

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	4	2.2	2.06	1.03	2.2 ± 2.65	93.64
2	4	3.5	1.00	0.50	3.5 ± 1.29	28.57
3	4	2.2	0.50	0.25	2.2 ± 0.64	22.73
4	4	3.5	1.00	0.50	3.5 ± 1.29	28.57
5	4	3.2	0.96	0.48	3.2 ± 1.24	30.00
6	4	3.7	0.50	0.25	3.7 ± 0.64	13.51
7	4	3.5	1.00	0.50	3.5 ± 1.29	28.57
8	4	2.2	0.50	0.25	2.2 ± 0.64	22.73
9	4	3.0	0.82	0.41	3.0 ± 1.06	27.33
10	4	3.2	0.96	0.48	3.2 ± 1.24	30.00
11	4	3.2	0.96	0.48	3.2 ± 1.24	30.00
12	4	2.7	0.50	0.25	2.7 ± 0.64	18.52
13	4	2.5	0.58	0.29	2.5 ± 0.75	23.20
14	4	2.5	1.91	0.96	2.5 ± 2.46	76.40
15	4	2.0	1.41	0.71	2.0 ± 1.82	70.50
16	4	3.5	1.00	0.50	3.5 ± 1.29	28.57
17	4	3.0	2.00	1.00	3.0 ± 2.58	66.67

TABLE 5.22 : MEAN, S.D, S.E, C.I, C.V

FOR WHY MAKING JOINT VENTURE

GET INTO THE MARKET

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	18	2.7	1.41	0.33	2.7 ± 0.86	52.22
2	18	2.8	1.20	0.28	2.8 ± 0.73	42.86
3	18	2.4	1.20	0.28	2.4 ± 0.73	50.00
4	18	2.8	1.25	0.29	2.8 ± 0.76	44.64
5	18	2.9	1.32	0.31	2.9 ± 0.80	45.52
6	18	3.5	1.15	0.27	3.5 ± 0.70	32.86
7	18	2.8	1.29	0.30	2.8 ± 0.78	46.07
8	18	2.4	0.98	0.23	2.4 ± 0.59	40.83
9	18	3.1	1.46	0.34	3.1 ± 0.89	47.10
10	18	2.9	1.35	0.32	2.9 ± 0.82	46.55
11	18	2.4	1.11	0.26	2.4 ± 0.67	46.25
12	18	2.4	1.20	0.28	2.4 ± 0.73	50.00
13	18	1.6	1.20	0.28	1.6 ± 0.73	75.00
14	18	1.8	1.15	0.27	1.8 ± 0.70	63.89
15	18	2.7	1.17	0.28	2.7 ± 0.71	43.33
16	18	2.4	1.18	0.28	2.4 ± 0.72	49.17
17	18	2.4	1.20	0.28	2.4 ± 0.73	50.00

Table 5.23 : MEAN, S.D, S.E, C.I, C.V

FOR TYPE OF JOINT VENTURE

(PERCENTAGE)

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	36	2.80	1.48	0.25	2.8 ± 0.64	52.86
2	36	2.10	1.43	0.24	2.1 ± 0.61	68.10
3	36	1.70	1.37	0.23	1.7 ± 0.59	80.59
4	36	2.50	1.34	0.22	2.5 ± 0.58	53.60
5	36	2.60	1.33	0.22	2.6 ± 0.57	51.15
6	36	3.00	1.23	0.20	3.0 ± 0.53	41.00
7	36	2.90	1.22	0.20	2.9 ± 0.52	42.07
8	36	2.40	1.23	0.20	2.4 ± 0.53	51.25
9	36	2.40	1.40	0.23	2.4 ± 0.60	58.33
10	36	2.60	1.36	0.23	2.6 ± 0.58	52.31
11	36	2.40	1.36	0.23	2.4 ± 0.58	56.67
12	36	2.20	1.28	0.21	2.2 ± 0.55	58.18
13	36	2.60	1.34	0.22	2.4 ± 0.58	51.54
14	36	1.60	1.21	0.20	1.6 ± 0.52	75.63
15	36	1.60	1.32	0.22	1.6 ± 0.57	82.50
16	36	2.80	1.25	0.21	2.8 ± 0.54	44.64
17	36	2.60	1.50	0.25	2.6 ± 0.64	57.69

Table 5.24 : MEAN, S.D, S.E, C.I, C.V

FOR TYPE OF JOINT VENTURE

(PROFIT)

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	7	3.40	0.79	0.30	3.4 +- 0.77	23.24
2	7	2.40	1.81	0.68	2.4 +- 1.76	75.42
3	7	2.30	1.70	0.64	2.3 +- 1.65	73.91
4	7	2.30	1.70	0.64	2.3 +- 1.65	73.91
5	7	2.40	1.99	0.75	2.4 +- 1.94	82.92
6	7	2.60	1.81	0.68	2.6 +- 1.76	69.62
7	7	3.00	1.00	0.38	3.0 +- 0.97	33.33
8	7	1.60	1.13	0.43	1.6 +- 1.10	70.62
9	7	2.30	1.70	0.64	2.3 +- 1.65	73.91
10	7	3.00	1.29	0.49	3.0 +- 1.26	43.00
11	7	2.60	1.81	0.68	2.6 +- 1.76	69.62
12	7	2.00	1.73	0.65	2.0 +- 1.68	86.50
13	7	2.00	1.53	0.58	2.0 +- 1.49	76.50
14	7	1.40	1.13	0.43	1.4 +- 1.10	80.71
15	7	1.60	1.27	0.48	1.6 +- 1.24	79.38
16	7	3.00	1.00	0.38	3.0 +- 0.97	33.33
17	7	2.00	1.41	0.53	2.0 +- 1.37	70.50

Table 5.25 : MEAN, S.D, S.E, C.I, C.V

FOR TYPE OF JOINT VENTURE

(MANAGMENT)

Q #	N	MEAN	STAND DEVIAT	STD ERROR OF MEAN	99% CONFIDANCE INTERVAL	C.V
1	7	3.30	1.50	0.57	3.3 ± 1.46	45.45
2	7	3.00	0.82	0.31	3.0 ± 0.80	27.33
3	7	2.90	0.90	0.34	2.9 ± 0.88	31.03
4	7	3.00	1.41	0.53	3.0 ± 1.37	47.00
5	7	3.00	0.82	0.31	3.0 ± 0.80	27.33
6	7	3.40	0.53	0.20	3.4 ± 0.52	15.59
7	7	2.70	1.50	0.57	2.7 ± 1.46	55.56
8	7	3.00	0.82	0.31	3.0 ± 0.80	27.33
9	7	2.60	1.27	0.48	2.6 ± 1.24	48.85
10	7	2.40	1.40	0.53	2.4 ± 1.36	58.33
11	7	2.60	1.27	0.48	2.6 ± 1.24	48.85
12	7	2.90	1.21	0.46	2.9 ± 1.18	41.72
13	7	3.10	0.90	0.34	3.1 ± 0.88	29.03
14	7	1.90	0.90	0.34	1.9 ± 0.88	47.37
15	7	2.70	0.95	0.36	2.7 ± 0.92	35.19
16	7	2.90	1.46	0.55	2.9 ± 1.42	50.34
17	7	1.70	1.38	0.52	1.7 ± 1.34	81.18

Table 5.26 : COMPANY NATIONALITY RANK

SAUDI-SAUDI VENTURE

RANK	Q#	disadvantages	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	79.00
2	7	GOVERNMENT REGULATIONS.	70.00
3	4	POOR ORGANIZATION STRUCTURE OF VENTURE	69.00
4	5	FINANCIAL PROBLEMS OF VENTURE.	65.00
5	13	LACK OF POLICY AGREEMENT.	63.00
6	10	INADEQUATE ESTIMATION.	61.00
7	16	LACK OF ADEQUATE STUDY OF VENTURE.	58.00
8	8	POOR COMMUNICATION BETWEEN PARTIES.	59.00
9	9	WORK TERMINATION.	56.00
10	17	REACHING A DECISION TAKES LONG TIME	54.00
11	1	POOR WRITTEN CONTRACT.	53.00
12	2	POOR QUALITY OF VENTURE WORK.	53.00
13	11	LACK OF ADEQUATE PREPLANNING.	50.00
14	12	LACK OF ATTENTION & FLEXIBILITY.	50.00
15	3	DELAY CAUSED BY THE VENTURE.	48.00
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	48.00
17	14	FOREIGN VENTURE HEADQUARTER EXISTS ABROAD.	33.00

Table 5.27 : COMPANY NATIONALITY RANK

SAUDI-FORIGEN

RANK	Q #	disadvantages	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	88.00
2	16	LACK OF ADEQUATE STUDY OF VENTURES	81.00
3	7	GOVERNMENT REGULATIONS.	75.00
4	6	PAYMENT DELAY FROM THE OWNER.	72.00
5	11	LACK OF ADEQUATE PREPLANNING.	69.00
6	5	FINANCIAL PROBLEMS OF VENTURE.	68.00
7	10	INADEQUATE ESTIMATION.	68.00
8	13	LACK OF POLICY AGREEMENT.	66.00
9	9	WORK TERMINATION.	63.00
10	17	REACHING A DECISION TAKES LONG TIME	63.00
11	8	POOR COMMUNICATION BETWEEN PARTIES.	61.00
12	12	LACK OF ATTENTION & FLEXIBILITY.	61.00
13	4	POOR ORGANIZATION STRUCTURE OF VENTURE	59.00
14	2	POOR QUALITY OF VENTURE WORK.	58.00
15	3	DELAY CAUSED BY THE VENTURE.	49.00
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL.	47.00
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	44.00

Table 5.28 : COMPANY'S NATIONALITY RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	75.00
2	1	POOR WRITTEN CONTRACT.	74.00
3	7	GOVERNMENT REGULATIONS.	73.00
4	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	72.00
5	5	FINANCIAL PROBLEMS OF VENTURE.	67.00
6	10	INADEQUATE ESTIMATION.	65.00
7	13	LACK OF POLICY AGREEMENT.	65.00
8	4	POOR ORGANIZATION STRUCTURE OF VENTURE.	63.00
9	11	LACK OF ADEQUATE PREPLANNING.	62.00
12	9	WORK TERMINATION.	61.00
11	8	POOR COMMUNICATION BETWEEN PARTIES.	60.00
12	17	REACHING A DECISION TAKES LONG TIME	60.00
13	12	LACK OF ATTENTION & FLEXIBILITY.	57.00
14	2	POOR QUALITY OF VENTURE WORK.	56.00
15	3	DELAY CAUSED BY THE VENTURE.	49.00
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	44.00
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	40.00

Table 5.29 : ROLE IN CONSTRUCTION RANK

CONTRACTORSHIP

RANK	Q #	DISADVANTAGES	IMPORTACE INDEX %
1	7	GOVERNMENT REGULATIONS.	82.00
2	6	PAYMENT DELAY FROM THE OWNER.	79.00
3	17	REACHING A DECISION TAKES LONG TIME	78.00
4	16	LACK OF ADEQUATE STUDY OF VENTURE	77.00
5	10	INADEQUATE ESTIMATION.	77.00
6	4	POOR ORGANIZATION STRUCTURE OF VENTURE	73.00
7	5	FINANCIAL PROBLEMS OF VENTURE.	73.00
8	9	WORK TERMINATION.	72.00
9	11	LACK OF ADEQUATE PREPLANNING.	71.00
10	1	POOR WRITTEN CONTRACT.	69.00
11	8	POOR COMMUNICATION BETWEEN PARTIES.	69.00
12	2	POOR QUALITY OF VENTURE WORK.	68.00
13	13	LACK OF POLICY AGREEMENT.	67.00
14	12	LACK OF ATTENTION & FLEXIBILITY.	66.00
15	3	DELAY CAUSED BY THE VENTURE.	55.00
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	48.00
17	14	FOREIGN VENTURE HEADQUARTER EXISTS ABROAD.	42.00

Table 5.30 : ROLE IN CONSTRUCTION RANK

DESIGN AND CONSULTANCY

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	64.00
2	6	PAYMENT DELAY FROM THE OWNER.	44.00
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	44.00
4	5	FINANCIAL PROBLEMS OF VENTURE.	42.00
5	7	GOVERNMENT REGULATIONS.	42.00
6	13	LACK OF POLICY AGREEMENT.	40.00
7	8	POOR COMMUNICATION BETWEEN PARTIES.	34.00
8	10	INADEQUATE ESTIMATION.	34.00
9	4	POOR ORGANIZATION STRUCTURE OF VENTURE	32.00
10	9	WORK TERMINATION.	30.00
11	11	LACK OF ADEQUATE PREPLANNING.	30.00
12	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	30.00
13	12	LACK OF ATTENTION & FLEXIBILITY.	28.00
14	17	REACHING A DECISION TAKES LONG TIME	26.00
15	3	DELAY CAUSED BY THE VENTURE.	22.00
16	2	POOR QUALITY OF VENTURE WORK.	20.00
17	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	14.00

Table 5.31 : ROLE IN CONSTRUCTION RANK

DESIGN - CONTRACTOR

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	83.25
2	6	PAYMENT DELAY FROM THE OWNER.	77.00
3	7	GOVERNMENT REGULATIONS.	75.00
4	13	LACK OF POLICY AGREEMENT.	71.25
5	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	71.25
6	5	FINANCIAL PROBLEMS OF VENTURE.	64.50
7	10	INADEQUATE ESTIMATION.	60.50
8	11	LACK OF ADEQUATE PREPLANNING.	58.25
9	2	POOR QUALITY OF VENTURE WORK.	54.25
10	8	POOR COMMUNICATION BETWEEN PARTIES.	54.25
11	9	WORK TERMINATION.	54.25
12	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	54.25
13	12	LACK OF ATTENTION & FLEXIBILITY.	54.25
14	4	POOR ORGANIZATION STRUCTURE OF VENTURE	52.00
15	3	DELAY CAUSED BY THE VENTURE.	45.75
16	17	REACHING A DECISION TAKES LONG TIME	43.75
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABRAOAD.	33.25

Table 5.32 : ROLE IN CONSTRUCTION RANK

CONSULTANCE

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	4	POOR ORGANIZATION STRUCTURE OF VENTURE	100.00
2	6	PAYMENT DELAY FROM THE OWNER.	91.75
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	83.25
4	3	DELAY CAUSED BY THE VENTURE.	75.00
5	11	LACK OF ADEQUATE PREPLANNING.	75.00
6	2	POOR QUALITY OF VENTURE WORK.	66.75
7	5	FINANCIAL PROBLEMS OF VENTURE.	66.75
8	8	POOR COMMUNICATION BETWEEN PARTIES.	66.75
9	9	WORK TERMINATION.	66.75
10	13	LACK OF POLICY AGREEMENT.	66.75
11	7	GOVERNMENT REGULATIONS.	58.25
12	10	INADEQUATE ESTIMATION.	58.25
13	12	LACK OF ATTENTION & FLEXIBILITY.	58.25
14	17	REACHING A DECISION TAKES LONG TIME	58.25
15	1	POOR WRITTEN CONTRACT.	50.00
16	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	50.00
17	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL.	50.00

Table 5.33 : ROLE IN CONSTRUCTION RANK

RANK	Q#	disadvantages	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	75.69
2	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	71.81
3	1	POOR WRITTEN CONTRACT.	70.56
4	7	GOVERNMENT REGULATIONS.	66.94
5	4	POOR ORGANIZATION STRUCTURE OF VENTURE.	66.25
6	5	FINANCIAL PROBLEMS OF VENTURE.	64.19
7	13	LACK OF POLICY AGREEMENT.	63.94
8	11	LACK OF ADEQUATE PREPLANNING.	60.44
9	10	INADEQUATE ESTIMATION.	59.56
10	8	POOR COMMUNICATION BETWEEN PARTIES.	58.13
11	9	WORK TERMINATION.	57.63
12	2	POOR QUALITY OF VENTURE WORK.	53.50
13	12	LACK OF ATTENTION & FLEXIBILITY.	53.38
14	17	REACHING A DECISION TAKES LONG TIME	53.13
15	3	DELAY CAUSED BY THE VENTURE.	50.81
16	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL	42.44
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	40.69

Table 5.34 : TYPE OF CONSTRUCTION RANK

(HOUSING)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	82.50
2	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	82.50
3	17	REACHING A DECISION TAKES LONG TIME	77.50
4	7	GOVERNMENT REGULATIONS.	75.00
5	11	LACK OF ADEQUATE PREPLANNING.	75.00
6	10	INADEQUATE ESTIMATION.	72.50
7	1	POOR WRITTEN CONTRACT.	72.50
8	12	LACK OF ATTENTION & FLEXIBILITY.	65.00
9	5	FINANCIAL PROBLEMS OF VENTURE.	62.50
10	8	POOR COMMUNICATION BETWEEN PARTIES.	62.50
11	9	WORK TERMINATION.	60.00
12	4	POOR ORGANIZATION STRUCTURE OF VENTURE	60.00
13	13	LACK OF POLICY AGREEMENT.	57.50
14	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	57.50
15	2	POOR QUALITY OF VENTURE WORK.	52.50
16	3	DELAY CAUSED BY THE VENTURE.	52.50
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	35.00

Table 5.35 : TYPE OF CONSTRUCTION RANK

(ENGINEERING)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	7	GOVERNMENT REGULATIONS.	75.00
2	5	FINANCIAL PROBLEMS OF VENTURE.	72.25
3	13	LACK OF POLICY AGREEMENT.	69.50
4	6	PAYMENT DELAY FROM THE OWNER.	66.75
5	10	INADEQUATE ESTIMATION.	66.75
6	9	WORK TERMINATION.	64.00
7	4	POOR ORGANIZATION STRUCTURE OF VENTURE	64.00
8	16	LACK OF ADEQUATE STUDY OF PARTENER BEFORE FORMING THE J.V.	61.00
9	11	LACK OF ADEQUATE PREPLANNING.	58.25
10	1	POOR WRITTEN CONTRACT.	55.50
11	12	LACK OF ATTENTION & FLEXSIBILITY	55.50
12	17	REACHING A DECISION TAKES LONG TIME	52.75
13	2	POOR QUALITY OF VENTURE WORK.	50.00
14	8	POOR COMMUNICATION BETWEEN PARTIES.	50.00
15	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	50.00
16	3	DELAY CAUSED BY THE VENTURE.	47.25
17	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	44.50

Table 5.36 : TYPE OF CONSTRUCTION RANK

(NONRESIDENTIAL BUILDING)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	85.00
2	1	POOR WRITTEN CONTRACT.	80.00
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	77.50
4	5	FINANCIAL PROBLEMS OF VENTURE.	72.50
5	13	LACK OF POLICY AGREEMENT.	72.50
6	8	POOR COMMUNICATION BETWEEN PARTIES.	67.50
7	9	WORK TERMINATION.	67.50
8	4	POOR ORGANIZATION STRUCTURE OF VENTURE	65.00
9	2	POOR QUALITY OF VENTURE WORK.	57.50
10	11	LACK OF ADEQUATE PREPLANNING.	57.50
11	17	REACHING A DECISION TAKES LONG TIME.	55.00
12	7	GOVERNMENT REGULATIONS.	52.50
13	10	INADEQUATE ESTIMATION.	50.00
14	12	LACK OF ATTENTION & FLEXIBILITY.	50.00
15	3	DELAY CAUSED BY THE VENTURE.	45.00
16	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	35.00
17	14	FOREIGN VENTURE HEADQUARTER EXISTS ABROAD.	32.50

Table 5.37 : TYPE OF CONSTRUCTION RANK

(INDUSTRIAL CONSTRUCTION)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	7	GOVERNMENT REGULATIONS.	60.00
2	1	POOR WRITTEN CONTRACT.	54.00
3	6	PAYMENT DELAY FROM THE OWNER.	54.00
4	10	INADEQUATE ESTIMATION.	50.00
5	13	LACK OF POLICY AGREEMENT.	48.00
6	5	FINANCIAL PROBLEMS OF VENTURE.	46.00
7	2	POOR QUALITY OF VENTURE WORK.	46.00
8	8	POOR COMMUNICATION BETWEEN PARTIES.	44.00
9	4	POOR ORGANIZATION STRUCTURE OF VENTURE	44.00
10	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	42.00
11	11	LACK OF ADEQUATE PREPLANNING.	42.00
12	12	LACK OF ATTENTION & FLEXIBILITY.	40.00
13	17	REACHING A DECISION TAKES LONG TIME	38.00
14	3	DELAY CAUSED BY THE VENTURE.	36.00
15	9	WORK TERMINATION.	34.00
16	14	FOREIGN VENTURE HEADQUARTER EXISTS ABROAD.	24.00
17	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	20.00

Table 5.38 : TYPE OF CONSTRUCTION RANK

(OTHERS)

RANK	Q#	disadvantages	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	88.75
2	7	GOVERNMENT REGULATIONS.	86.25
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	81.75
4	10	INADEQUATE ESTIMATION.	72.75
5	4	POOR ORGANIZATION STRUCTURE OF VENTURE	70.50
6	6	PAYMENT DELAY FROM THE OWNER.	70.50
7	5	FINANCIAL PROBLEMS OF VENTURE.	68.25
8	9	WORK TERMINATION.	68.25
9	11	LACK OF ADEQUATE PREPLANNING.	63.75
10	17	REACHING A DECISION TAKES LONG TIME	63.75
11	13	LACK OF POLICY AGREEMENT.	63.75
12	8	POOR COMMUNICATION BETWEEN PARTIES.	63.75
13	12	LACK OF ATTENTION & FLEXIBILITY.	61.25
14	2	POOR QUALITY OF VENTURE WORK.	61.25
15	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL	54.50
16	3	DELAY CAUSED BY THE VENTURE.	52.25
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	50.00

Table 5.39 : ROLE IN CONSTRUCTION RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	59.56
2	1	POOR WRITTEN CONTRACT.	58.28
3	7	GOVERNMENT REGULATIONS.	58.20
4	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	56.84
5	5	FINANCIAL PROBLEMS OF VENTURE.	53.28
6	10	INADEQUATE ESTIMATION.	51.92
7	13	LACK OF POLICY AGREEMENT.	51.72
8	4	POOR ORGANIZATION STRUCTURE OF VENTURE.	50.32
9	11	LACK OF ADEQUATE PREPLANNING.	49.12
10	9	WORK TERMINATION.	48.36
11	8	POOR COMMUNICATION BETWEEN PARTIES.	47.80
12	17	REACHING A DECISION TAKES LONG TIME	47.44
13	12	LACK OF ATTENTION & FLEXIBILITY.	45.08
14	2	POOR QUALITY OF VENTURE WORK.	44.60
15	3	DELAY CAUSED BY THE VENTURE.	38.72
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	34.64
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	31.60

Table 5.40 : GRADE ONE RANK

(AS SPECIFIED BY MINISTRY OF COMMERCE)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	81.25
2	6	PAYMENT DELAY FROM THE OWNER.	68.75
3	8	POOR COMMUNICATION BETWEEN PARTIES.	65.50
4	13	LACK OF POLICY AGREEMENT.	56.25
5	5	FINANCIAL PROBLEMS OF VENTURE.	56.25
6	7	GOVERNMENT REGULATIONS.	56.25
7	9	WORK TERMINATION.	53.00
8	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	53.00
9	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	53.00
10	11	LACK OF ADEQUATE PREPLANNING.	50.00
11	17	REACHING A DECISION TAKES LONG TIME	46.75
12	12	LACK OF ATTENTION & FLEXIBILITY.	46.75
13	10	INADEQUATE ESTIMATION.	43.75
14	2	POOR QUALITY OF VENTURE WORK.	
15	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	37.50
16	4	POOR ORGANIZATION STRUCTURE OF VENTURE	34.25
17	3	DELAY CAUSED BY THE VENTURE.	31.25

Table 5.41 : GRADE TWO RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	7	GOVERNMENT REGULATIONS.	89.50
2	5	FINANCIAL PROBLEMS OF VENTURE.	85.50
3	6	PAYMENT DELAY FROM THE OWNER.	83.25
4	1	POOR WRITTEN CONTRACT.	81.25
5	4	POOR ORGANIZATION STRUCTURE OF VENTURE	79.25
6	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	79.25
7	17	REACHING A DECISION TAKES LONG TIME	79.25
8	10	INADEQUATE ESTIMATION.	77.00
9	11	LACK OF ADEQUATE PREPLANNING.	75.00
10	8	POOR COMMUNICATION BETWEEN PARTIES.	73.00
11	9	WORK TERMINATION.	73.00
12	13	LACK OF POLICY AGREEMENT.	73.00
13	2	POOR QUALITY OF VENTURE WORK.	68.75
14	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL	68.75
15	3	DELAY CAUSED BY THE VENTURE.	64.50
16	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	58.25
17	12	LACK OF ATTENTION & FLEXIBILITY.	54.25

Table 5.42 : GRADE THREE RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	100.00
2	10	INADEQUATE ESTIMATION.	81.25
3	7	GOVERNMENT REGULATIONS.	75.00
4	5	FINANCIAL PROBLEMS OF VENTURE.	68.75
5	4	POOR ORGANIZATION STRUCTURE OF VENTURE	68.75
6	12	LACK OF ATTENTION & FLEXIBILITY.	62.50
7	13	LACK OF POLICY AGREEMENT.	62.50
8	17	REACHING A DECISION TAKES LONG TIME	56.25
9	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	56.25
10	8	POOR COMMUNICATION BETWEEN PARTIES.	56.25
11	11	LACK OF ADEQUATE PREPLANNING.	50.00
12	2	POOR QUALITY OF VENTURE WORK.	50.00
13	1	POOR WRITTEN CONTRACT.	43.75
14	9	WORK TERMINATION.	43.75
15	3	DELAY CAUSED BY THE VENTURE.	37.50
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL.	18.75
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	12.50

Table 5.43 : GRADE FOUR RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	4	POOR ORGANIZATION STRUCTURE OF VENTURE	55.00
2	6	PAYMENT DELAY FROM THE OWNER.	55.00
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	55.00
11	13	LACK OF POLICY AGREEMENT.	55.00
10	9	WORK TERMINATION.	50.00
6	11	LACK OF ADEQUATE PREPLANNING.	45.00
13	7	GOVERNMENT REGULATIONS.	45.00
5	3	DELAY CAUSED BY THE VENTURE.	40.00
12	5	FINANCIAL PROBLEMS OF VENTURE.	40.00
7	1	POOR WRITTEN CONTRACT.	40.00
8	2	POOR QUALITY OF VENTURE WORK.	40.00
17	12	LACK OF ATTENTION & FLEXIBILITY.	40.00
9	8	POOR COMMUNICATION BETWEEN PARTIES.	35.00
4	17	REACHING A DECISION TAKES LONG TIME	35.00
14	10	INADEQUATE ESTIMATION.	30.00
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	25.00
15	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	20.00

Table 5.44 : GRADE FIVE RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	82.25
2	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	82.25
3	7	GOVERNMENT REGULATIONS.	78.50
4	10	INADEQUATE ESTIMATION.	78.50
5	12	LACK OF ATTENTION & FLEXIBILITY.	75.00
6	13	LACK OF POLICY AGREEMENT.	75.00
7	17	REACHING A DECISION TAKES LONG TIME	71.50
8	4	POOR ORGANIZATION STRUCTURE OF VENTURE	67.75
9	5	FINANCIAL PROBLEMS OF VENTURE.	67.75
10	8	POOR COMMUNICATION BETWEEN PARTIES.	60.75
11	11	LACK OF ADEQUATE PREPLANNING.	60.75
12	2	POOR QUALITY OF VENTURE WORK.	57.25
13	9	WORK TERMINATION.	57.25
14	3	DELAY CAUSED BY THE VENTURE.	50.00
15	6	PAYMENT DELAY FROM THE OWNER.	50.00
16	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	35.75
17	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	35.75

Table 5.45 : CONSULTANT RANK

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	82.25
2	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE BEFORE FORMING THE J.V.	80.25
3	1	POOR WRITTEN CONTRACT.	78.50
4	7	GOVERNMENT REGULATIONS.	75.00
5	10	INADEQUATE ESTIMATION.	67.75
6	11	LACK OF ADEQUATE PREPLANNING.	66.00
7	4	POOR ORGANIZATION STRUCTURE OF VENTURE	64.25
8	5	FINANCIAL PROBLEMS OF VENTURE.	64.25
9	9	WORK TERMINATION.	64.25
10	2	POOR QUALITY OF VENTURE WORK.	62.50
11	13	LACK OF POLICY AGREEMENT.	60.75
12	12	LACK OF ATTENTION & FLEXIBILITY.	59.00
13	8	POOR COMMUNICATION BETWEEN PARTIES.	55.25
14	17	REACHING A DECISION TAKES LONG TIME	53.50
15	3	DELAY CAUSED BY THE VENTURE.	50.00
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	42.75
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	32.25

Table 5.46 : GRADE RANK

RANK	Q#	disadvantages	IMPORANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	73.21
2	7	GOVERNMENT REGULATIONS.	69.88
3	1	POOR WRITTEN CONTRACT.	67.84
4	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	67.66
5	5	FINANCIAL PROBLEMS OF VENTURE.	63.75
6	13	LACK OF POLICY AGREEMENT.	63.75
7	10	INADEQUATE ESTIMATION.	63.04
8	4	POOR ORGANIZATION STRUCTURE OF VENTURE.	61.54
9	11	LACK OF ADEQUATE PREPLANNING.	57.79
10	8	POOR COMMUNICATION BETWEEN PARTIES.	57.63
11	17	REACHING A DECISION TAKES LONG TIME	57.04
12	9	WORK TERMINATION.	56.88
13	12	LACK OF ATTENTION & FLEXIBILITY.	56.25
14	2	POOR QUALITY OF VENTURE WORK.	53.71
15	3	j	45.54
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	38.09
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	35.29

Table 5.47 : REASON FOR MAKING JOINT VENTURE RANK BY RISK SHARING

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	13	LACK OF POLICY AGREEMENT.	87.50
2	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	87.50
3	17	REACHING A DECISION TAKES LONG TIME	82.50
4	8	POOR COMMUNICATION BETWEEN PARTIES.	79.25
5	9	WORK TERMINATION.	75.00
6	12	LACK OF ATTENTION & FLEXIBILITY.	75.00
7	1	POOR WRITTEN CONTRACT.	75.00
8	5	FINANCIAL PROBLEMS OF VENTURE.	66.75
9	7	GOVERNMENT REGULATIONS.	66.75
10	10	INADEQUATE ESTIMATION.	66.75
11	6	PAYMENT DELAY FROM THE OWNER.	62.50
12	11	LACK OF ADEQUATE PREPLANNING.	58.25
13	4	POOR ORGANIZATION STRUCTURE OF VENTURE	58.25
14	2	POOR QUALITY OF VENTURE WORK.	45.75
15	3	DELAY CAUSED BY THE VENTURE.	41.75
16	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL	37.50
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	25.00

Table 5.48 : REASON FOR MAKING JOINT VENTURE RANK FOR TECNOLOGY TRANSFER

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	83.25
2	7	GOVERNMENT REGULATIONS.	72.25
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	64.00
4	5	FINANCIAL PROBLEMS OF VENTURE.	61.00
5	6	PAYMENT DELAY FROM THE OWNER.	61.00
6	13	LACK OF POLICY AGREEMENT.	59.75
7	8	POOR COMMUNICATION BETWEEN PARTIES.	57.00
8	9	WORK TERMINATION.	57.00
9	10	INADEQUATE ESTIMATION.	52.75
10	4	POOR ORGANIZATION STRUCTURE OF VENTURE	52.75
11	17	REACHING A DECISION TAKES LONG TIME	50.00
12	11	LACK OF ADEQUATE PREPLANNING.	47.25
13	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	43.00
14	12	LACK OF ATTENTION & FLEXIBILITY.	41.75
15	2	POOR QUALITY OF VENTURE WORK.	40.25
16	3	DELAY CAUSED BY THE VENTURE.	40.25
17	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	36.00

Table 5.49 : REASON FOR MAKING JOINT VENTURE RANK

FOR PROFIT

RANK	Q#	DIADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	93.75
2	7	GOVERNMENT REGULATIONS.	87.50
3	2	POOR QUALITY OF VENTURE WORK.	87.50
4	4	POOR ORGANIZATION STRUCTURE OF VENTURE	87.50
5	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	87.50
6	5	FINANCIAL PROBLEMS OF VENTURE.	81.25
7	10	INADEQUATE ESTIMATION.	81.25
8	11	LACK OF ADEQUATE PREPLANNING.	81.25
9	17	REACHING A DECISION TAKES LONG TIME	75.00
10	9	WORK TERMINATION.	75.00
11	12	LACK OF ATTENTION & FLEXIBILITY.	68.75
12	13	LACK OF POLICY AGREEMENT.	62.50
13	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	62.50
14	1	POOR WRITTEN CONTRACT.	56.25
15	3	DELAY CAUSED BY THE VENTURE.	56.25
16	8	POOR COMMUNICATION BETWEEN PARTIES.	56.25
17	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL.	50.00

Table 5.50 : REASON FOR MAKING JOINT VENTURE RANK

FOR GET INTO THE MARKET

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	87.50
2	10	INADEQUATE ESTIMATION.	76.50
3	11	LACK OF ADEQUATE PREPLANNING.	73.50
4	5	FINANCIAL PROBLEMS OF VENTURE.	72.25
5	2	POOR QUALITY OF VENTURE WORK.	70.75
6	4	POOR ORGANIZATION STRUCTURE OF VENTURE	70.75
7	7	GOVERNMENT REGULATIONS.	70.75
8	1	POOR WRITTEN CONTRACT.	66.75
9	9	WORK TERMINATION.	61.00
10	12	LACK OF ATTENTION & FLEXIBILITY.	61.00
11	13	LACK OF POLICY AGREEMENT.	61.00
12	3	DELAY CAUSED BY THE VENTURE.	59.75
13	8	POOR COMMUNICATION BETWEEN PARTIES.	59.75
14	17	REACHING A DECISION TAKES LONG TIME	59.75
15	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	55.50
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	44.50
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD	39.00

Table 5.52 : TYPE OF JOINT VENTURE RANK

(PERCENTAGE)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	74.25
2	7	GOVERNMENT REGULATIONS.	73.50
3	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	72.00
4	1	POOR WRITTEN CONTRACT.	69.50
5	5	FINANCIAL PROBLEMS OF VENTURE.	66.00
6	10	INADEQUATE ESTIMATION.	64.00
7	13	LACK OF POLICY AGREEMENT.	64.00
8	17	REACHING A DECISION TAKES LONG TIME	64.00
9	4	POOR ORGANIZATION STRUCTURE OF VENTURE	61.75
10	8	POOR COMMUNICATION BETWEEN PARTIES.	61.00
11	9	WORK TERMINATION.	60.50
12	11	LACK OF ADEQUATE PREPLANNING.	60.50
13	12	LACK OF ATTENTION & FLEXIBILITY.	54.75
14	2	POOR QUALITY OF VENTURE WORK.	51.50
15	3	DELAY CAUSED BY THE VENTURE.	42.25
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	39.50
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	39.00

Table 5.53 : TYPE OF JOINT VENTURE RANK

(PROFIT)

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	1	POOR WRITTEN CONTRACT.	85.75
2	7	GOVERNMENT REGULATIONS.	75.00
3	10	INADEQUATE ESTIMATION.	75.00
4	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	75.00
5	6	PAYMENT DELAY FROM THE OWNER.	64.25
6	11	LACK OF ADEQUATE PREPLANNING.	64.25
7	5	FINANCIAL PROBLEMS OF VENTURE.	60.75
8	2	POOR QUALITY OF VENTURE WORK.	60.75
9	3	DELAY CAUSED BY THE VENTURE.	57.25
10	4	POOR ORGANIZATION STRUCTURE OF VENTURE	57.25
11	9	WORK TERMINATION.	57.25
12	12	LACK OF ATTENTION & FLEXIBILITY.	50.00
13	13	LACK OF POLICY AGREEMENT.	50.00
14	17	REACHING A DECISION TAKES LONG TIME	50.00
15	8	POOR COMMUNICATION BETWEEN PARTIES.	39.25
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL.	39.25
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	35.75

Table 5.54 : TYPE OF JOINT VENTURE RANK BY MANAGMENT

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	85.75
2	1	POOR WRITTEN CONTRACT.	82.25
3	13	LACK OF POLICY AGREEMENT.	78.50
4	2	POOR QUALITY OF VENTURE WORK.	75.00
5	4	POOR ORGANIZATION STRUCTURE OF VENTURE	75.00
6	5	FINANCIAL PROBLEMS OF VENTURE.	75.00
7	8	POOR COMMUNICATION BETWEEN PARTIES.	75.00
8	12	LACK OF ATTENTION & FLEXIBILITY.	71.50
9	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	71.50
10	3	DELAY CAUSED BY THE VENTURE.	71.50
11	7	GOVERNMENT REGULATIONS.	67.75
12	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL.	67.75
13	9	WORK TERMINATION.	64.25
14	11	LACK OF ADEQUATE PREPLANNING.	64.25
15	10	INADEQUATE ESTIMATION.	60.75
16	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	46.50
17	17	REACHING A DECISION TAKES LONG TIME	42.75

Table 5.55 : TYPE OF JOINT VENTURE RANK

FOR OTHERS

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	7	GOVERNMENT REGULATIONS.	81.25
2	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	81.25
3	1	POOR WRITTEN CONTRACT.	75.00
4	6	PAYMENT DELAY FROM THE OWNER.	75.00
5	15	TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL	75.00
6	13	LACK OF POLICY AGREEMENT.	68.75
7	12	LACK OF ATTENTION & FLEXIBILITY.	62.50
8	4	POOR ORGANIZATION STRUCTURE OF VENTURE	56.25
9	11	LACK OF ADEQUATE PREPLANNING.	56.25
10	5	FINANCIAL PROBLEMS OF VENTURE.	50.00
11	8	POOR COMMUNICATION BETWEEN PARTIES.	50.00
12	10	INADEQUATE ESTIMATION.	50.00
13	17	REACHING A DECISION TAKES LONG TIME	50.00
14	2	POOR QUALITY OF VENTURE WORK.	43.75
15	3	DELAY CAUSED BY THE VENTURE.	37.50
16	9	WORK TERMINATION.	37.50
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	25.00

Table 5.57 : IMPORTANCE INDEX

RANK	Q#	DISADVANTAGES	IMPORTANCE INDEX %
1	6	PAYMENT DELAY FROM THE OWNER.	74.89
2	1	POOR WRITTEN CONTRACT.	71.95
3	7	GOVERNMENT REGULATIONS.	71.64
4	16	LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V	71.36
5	5	FINANCIAL PROBLEMS OF VENTURE.	65.71
6	13	LACK OF POLICY AGREEMENT.	64.79
7	4	POOR ORGANIZATION STRUCTURE OF VENTURE.	64.76
8	10	INADEQUATE ESTIMATION.	63.99
9	11	LACK OF ADEQUATE PREPLANNING.	60.93
10	9	WORK TERMINATION.	59.41
11	8	POOR COMMUNICATION BETWEEN PARTIES.	59.03
12	17	REACHING A DECISION TAKES LONG TIME	57.30
13	12	LACK OF ATTENTION & FLEXIBILITY.	56.99
14	2	POOR QUALITY OF VENTURE WORK.	56.33
15	3	DELAY CAUSED BY THE VENTURE.	49.55
16	15	TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL	44.01
17	14	FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	38.86

Table 5.58 : SPEARMAN RANK CORRELATION

Q#	SAUDI SAUDI J.V RANK (1)	SAUDI FOREIGN J.V RANK (2)	D (1)-(2)	D ^ 2
1	11.00	1.00	10.00	100
2	12.00	14.00	-2.00	4
3	15.00	15.00	0.00	0
4	3.00	13.00	-10.00	100
5	4.00	6.00	-2.00	4
6	1.00	4.00	-3.00	9
7	2.00	3.00	-1.00	1
8	8.00	11.00	-3.00	9
9	9.00	9.00	0.00	0
10	6.00	7.00	-1.00	1
11	13.00	5.00	8.00	64
12	14.00	12.00	2.00	4
13	5.00	8.00	-3.00	9
14	17.00	17.00	0.00	0
15	16.00	16.00	0.00	0
16	7.00	2.00	5.00	25
17	10.00	10.00	0.00	0
			SUM =	330.00

Table 5.59 : COMUTATION OF SPEARMAN RANK CORRELATION

Q#	PERCEN 1	PROFIT 2	MANAG 3	D (1-2)	D * D (1-2)	D (1-3)	D * D (1-3)	D (2-3)	D * D (2-3)
1	4	1	2	3	9	2	4	-1	1
2	14	8	4	6	36	10	100	4	16
3	15	9	10	6	36	5	25	-1	1
4	9	10	5	-1	1	4	16	5	25
5	5	7	6	-2	4	-1	1	1	1
6	1	5	1	-4	16	0	0	4	16
7	2	2	11	0	0	-9	81	-9	81
8	17	15	7	2	4	10	100	8	64
9	4	11	13	-7	49	-9	81	-2	4
10	6	3	15	3	9	-9	81	-12	144
11	12	6	14	6	36	-2	4	-8	64
12	13	12	15	1	1	-2	4	-3	9
13	7	13	3	-6	36	4	16	10	100
14	17	17	16	0	0	1	1	1	1
15	16	16	12	0	0	4	16	4	16
16	3	4	9	-1	1	-6	36	-5	25
17	8	14	17	-6	36	-9	81	-3	9
					SUM = 274		SUM = 647		SUM = 577

Table 5.60 : RANK CORRELATION VALUES

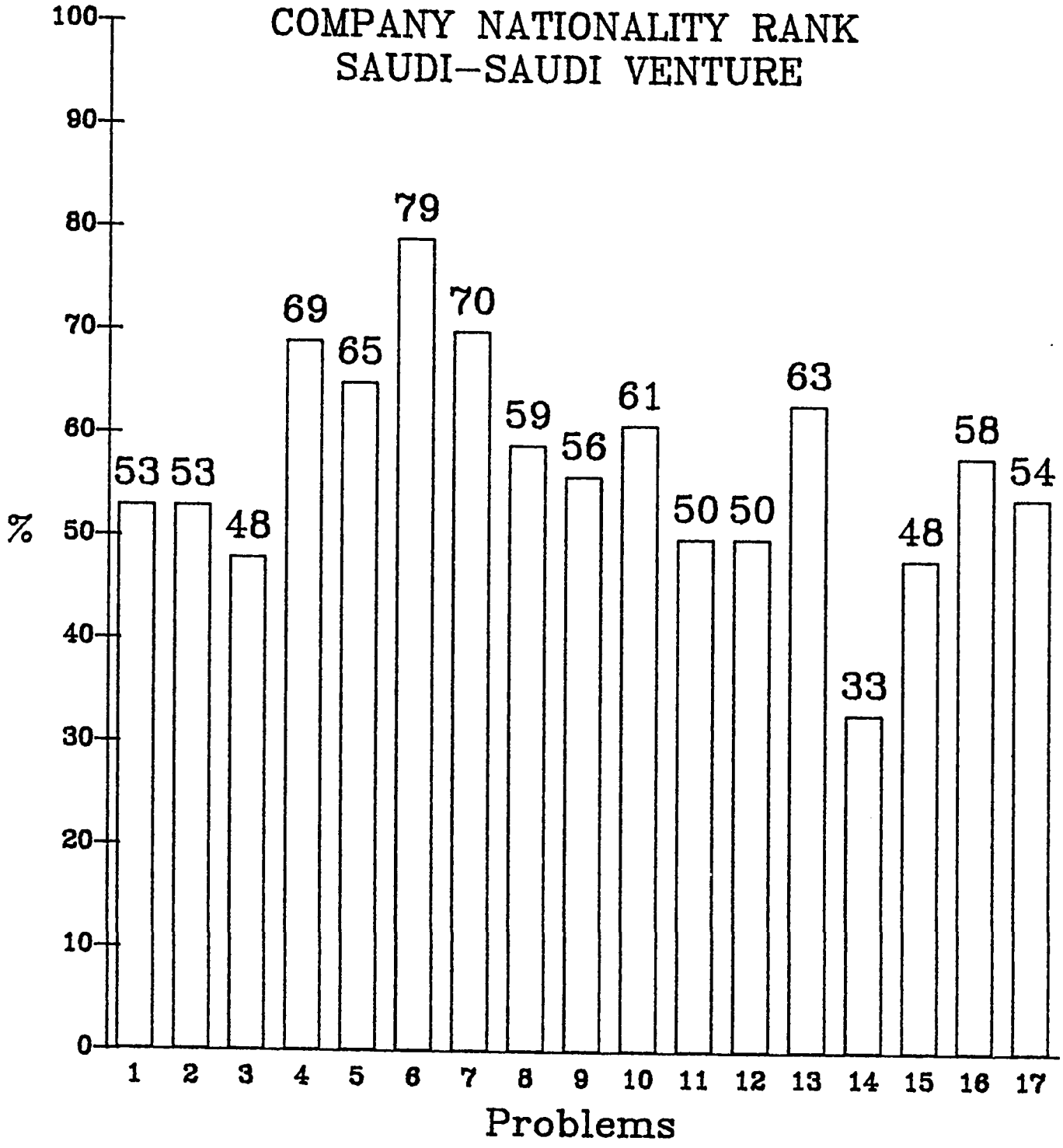
SPERMAN	PATIAL	MULTIPLE
R12 = 0.664	R12.3 = 0.645	R1.23 = 0.441
R13 = 0.207	R13.2 = 0.018	R2.13 = 0.466
R23 = 0.293	R23.1 = 0.212	R3.12 = 0.086

Table 5.61 : COMPUTATION OF t-STATISTICS ON TESTS OF HYPOTHESES ABOUT DIFFERENCE BETWEEN TWO MEANS

	N	MEAN Ls	STAND DEVIA	STD ERROR OF MEAN	VARIA	N	MEAN Ln	STAND DEVIA	STD ERROR OF MEAN	VARIA	Ls-Ln	Sp	t0	t@ @ = .05
1	20	2.10	1.48	0.33	2.19	30	3.50	1.04	0.19	1.08	-1.40	1.61	3.00	2.02
2	20	2.10	1.25	0.28	1.56	30	2.33	1.56	0.28	2.43	-0.23	2.13	0.37	2.02
3	20	1.90	1.29	0.29	1.66	30	1.97	1.50	0.27	2.25	-0.07	2.04	0.12	2.02
4	20	2.75	1.45	0.32	2.10	30	2.37	1.35	0.25	1.82	0.38	1.94	0.68	2.02
5	20	2.60	1.27	0.28	1.61	30	2.70	1.44	0.26	2.07	-0.10	1.90	0.18	2.02
6	20	3.15	1.27	0.28	1.61	30	2.87	1.25	0.23	1.56	0.28	1.58	0.61	2.02
7	20	2.80	1.28	0.29	1.64	30	3.00	1.17	0.21	1.37	-0.20	1.48	0.47	2.02
8	20	2.35	1.04	0.23	1.08	30	2.43	1.33	0.24	1.77	-0.08	1.53	0.18	2.02
9	20	2.25	1.25	0.28	1.56	30	2.53	1.50	0.27	2.25	-0.28	2.01	0.48	2.02
10	20	2.45	1.23	0.28	1.51	30	2.70	1.42	0.26	2.02	-0.25	1.83	0.47	2.02
11	20	2.00	1.12	0.25	1.25	30	2.77	1.48	0.27	2.19	-0.77	1.88	1.42	2.02
12	20	2.00	1.12	0.25	1.25	30	2.43	1.45	0.26	2.10	-0.43	1.81	0.82	2.02
13	20	2.50	1.15	0.26	1.32	30	2.63	1.45	0.26	2.10	-0.13	1.83	0.25	2.02
14	20	1.30	0.98	0.22	0.96	30	1.77	1.22	0.22	1.49	-0.47	1.31	1.25	2.02
15	20	1.55	1.32	0.30	1.74	30	1.87	1.31	0.24	1.72	-0.32	1.73	0.64	2.02
16	20	2.40	1.35	0.30	1.82	30	3.17	1.05	0.19	1.10	-0.77	1.43	1.86	2.02
17	20	2.15	1.35	0.30	1.82	30	2.53	1.67	0.30	2.79	-0.38	2.45	0.54	2.02

* SIGNIFICANT AT @ = 0.05

x NON SIGNIFICANT AT @ = 0.05


COMPANY NATIONALITY RANK
SAUDI–SAUDI VENTURE
100
90
80
70
60
50
40
30
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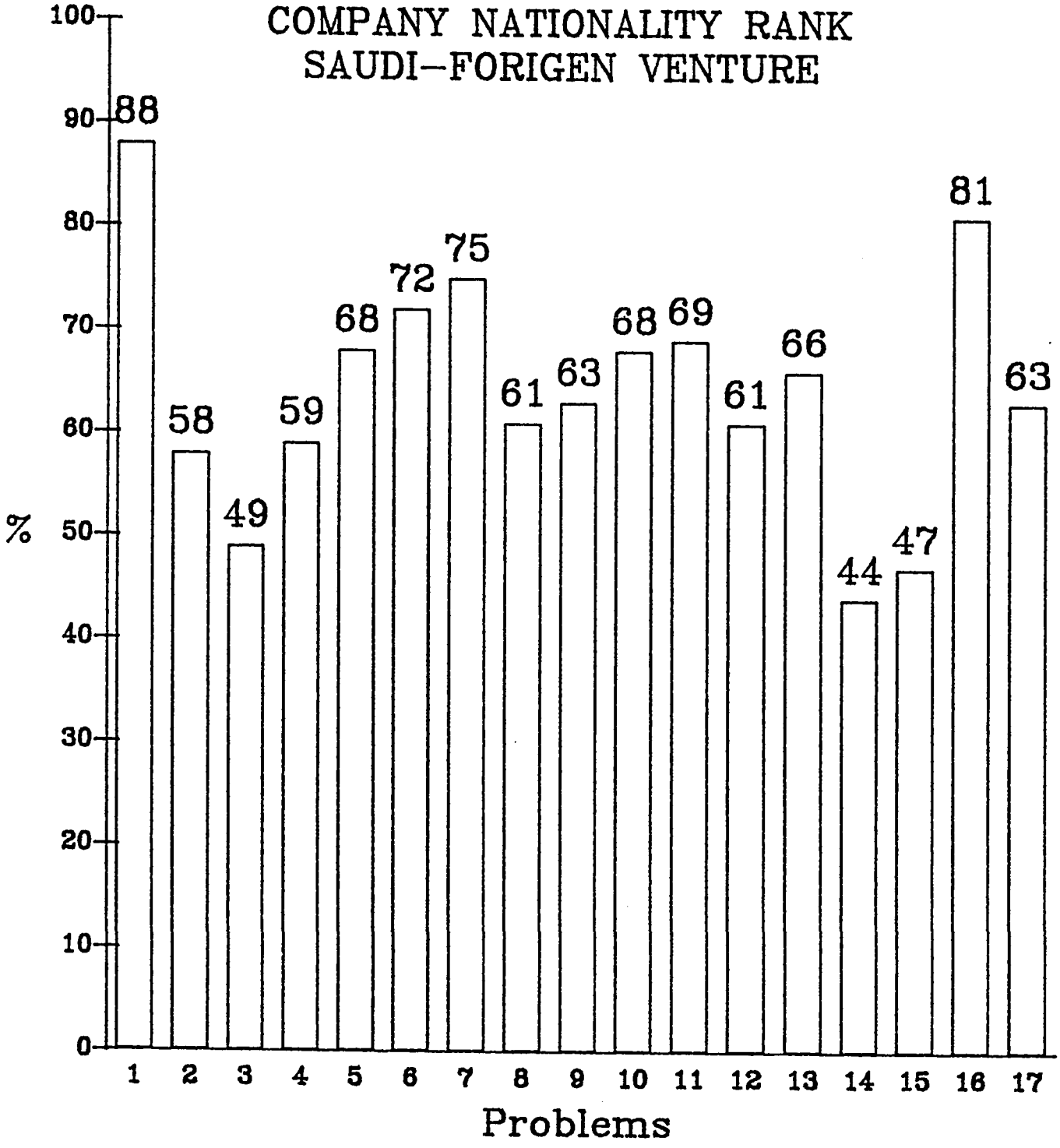
%
53 53 48 69 65 79 70 59 56 61 50 50 63 33 48 58 54
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Problems


COMPANY NATIONALITY RANK
SAUDI–FORIGEN VENTURE
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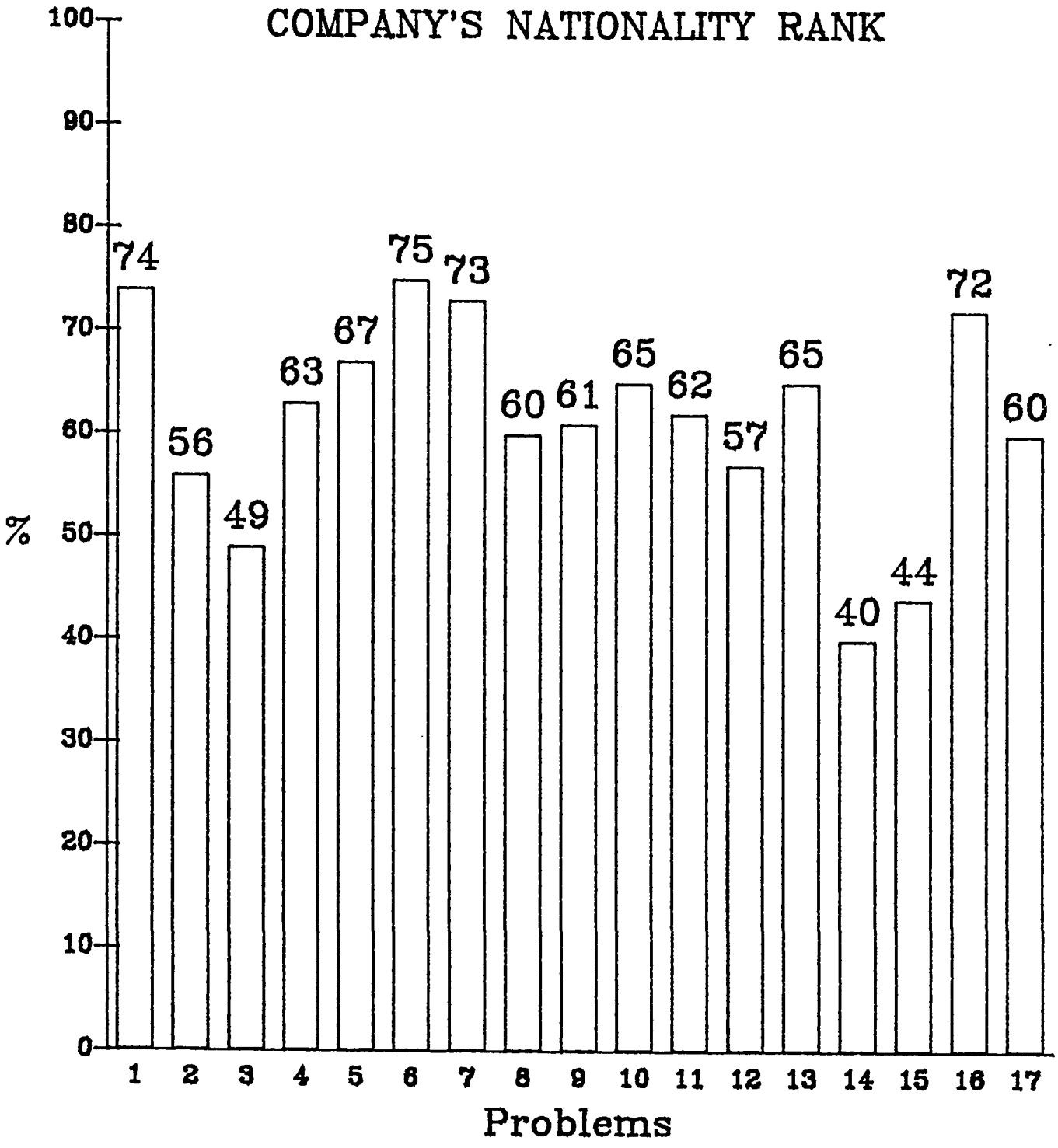
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Problems


COMPANY'S NATIONALITY RANK
100
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Problems

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of the Research

Chapter 1 introduces background information about joint ventures in Saudi Arabia. In addition, the chapter reviews the previous studies done, the objective, the approach and the significance of the study. It was decided that the study will be on the construction firms in the Eastern Province in Saudi Arabia. The study should show the common problems facing joint venture in the Kingdom for both Saudi - Saudi contractors and Saudi - Foreign contractors.

Chapter 2 discusses the joint venture in general, definition of joint venture and a brief history. Also, it explains the reasons for undertaking joint venture , type of joint venture and the characteristics of joint venture projects.

Chapter 3 shows the different problems which may face the joint venture. Many problems may face contractors, but the study chooses those problems which face the joint venture companies in the Eastern Province in the Kingdom of Saudi Arabia. There are seventeen problems facing the joint venture , and they are divided into two broad categories, namely, external problems and internal problems.

Chapter 4 demonstrates the means for collection of the raw data and then an approach is developed which resulted in the final questionnaire. Statistical sample size and scoring techniques are presented in this chapter.

Chapter 5 includes the analysis of the raw data, examining each question in the questionnaire separately to find the major points they include. It mainly contains the statistical methods used, tables and information included from the statistical analysis, the statistical results and an interpretation of these tables and information. The importance index was used to indicate the importance of the main problem facing the joint venture companies.

6.2 Conclusion

Based on the results of this research, the following can be concluded:

I For Saudi - Saudi joint venture (Table 5.26):

The following problems were ranked as important

6. Payment delay from the owner
7. Government regulations
4. Poor organization structure of venture
5. Financial problems of venture
13. Lack of policy agreement
10. Inadequate estimation

The following problems were ranked as some what important

16. Lack of adequate study of partners before forming the joint venture.
8. Poor communication between parties
9. Work termination
17. Reaching a decision takes a long time.
1. Poor written contract
2. Poor quality of venture work
11. Lack of adequate preplanning

12. Lack of attention and flexibility

3. Delay caused by the venture

15. Too much paper work has to be sent to the other party for approval.

The following problems were ranked as some what notimportant

14. Foreign venture headquarters are abroad

II For Saudi - Foreign joint venture (Table 5.27):

The following problems were ranked as very important

1. Poor written contract

16. Lack of adequate study of partners before forming the joint venture.

The following problems were ranked as important

7. Government regulations

6. Payment delay from the owner

11. Lack of adequate preplanning

5. Financial problems of venture

10. Inadequate estimation

13. Lack of policy agreement

9. Work termination

17. Reaching a decision takes a long time.

8. Poor communication between parties

12. Lack of attention and flexibility

The following problems were ranked as some what important

4. Poor organization structure of venture

2. Poor quality of venture work

3. Delay caused by the venture

15. Too much paper work has to be sent to the other party for approval.

14. Foreign venture headquarters are abroad

III For role in construction (table 5.33)

The following problems were ranked as important

6. Payment delay from the owner
16. Lack of adequate study of partners before forming the joint venture.
1. Poor written contract
7. Government regulations
4. Poor organization structure of venture
5. Financial problems of venture
13. Lack of policy agreement
11. Lack of adequate preplanning

The following problems were ranked as some what important

10. Inadequate estimation
8. Poor communication between parties
9. Work termination
2. Poor quality of venture work
12. Lack of attention and flexibility
17. Reaching a decision takes a long time.
3. Delay caused by the venture
15. Too much paper work has to be sent to the other party for approval.
14. Foreign venture headquarters are abroad

IV For Type of construction (table 5.39)

The following problems were ranked as some what important

6. Payment delay from the owner
1. Poor written contract

7. Government regulations

16. Lack of adequate study of partners before forming the joint venture.

5. Financial problems of venture

10. Inadequate estimation

13. Lack of policy agreement

4. Poor organization structure of venture

11. Lack of adequate preplanning

9. Work termination

8. Poor communication between parties

17. Reaching a decision takes a long time.

12. Lack of attention and flexibility

2. Poor quality of venture work

The following problems were ranked as some what not important

3. Delay caused by the venture

15. Too much paper work has to be sent to the other party for approval.

14. Foreign venture headquarters are abroad

V For grade (table 5.46)

The following problems were ranked as important

6. Payment delay from the owner

7. Government regulations

1. Poor written contract

16. Lack of adequate study of partners before forming the joint venture.

5. Financial problems of venture

13. Lack of policy agreement

10. Inadequate estimation

4. Poor organization structure of venture

The following problems were ranked as some what important

11. Lack of adequate preplanning
8. Poor communication between parties
17. Reaching a decision takes a long time.
9. Work termination
12. Lack of attention and flexibility
2. Poor quality of venture work
3. Delay caused by the venture

The following problems were ranked as some what not important

15. Too much paper work has to be sent to the other party for approval.
14. Foreign venture headquarters are abroad

VI For reason for making joint venture (table 5.51)

The following problems were ranked as important

6. Payment delay from the owner
7. Government regulations
16. Lack of adequate study of partners before forming the joint venture.
1. Poor written contract
13. Lack of policy agreement
5. Financial problems of venture
10. Inadequate estimation
4. Poor organization structure of venture
17. Reaching a decision takes a long time.
11. Lack of adequate preplanning
12. Lack of attention and flexibility
9. Work termination

8. Poor communication between parties

The following problems were ranked as some what important

2. Poor quality of venture work

15. Too much paper work has to be sent to the other party for approval.

3. Delay caused by the venture

The following problems were ranked as some what not important

14. Foreign venture headquarters are abroad

VII For type of joint venture (table 5.55)

The following problems were ranked as important

1. Poor written contract

6. Payment delay from the owner

16. Lack of adequate study of partners before forming the joint venture.

7. Government regulations

5. Financial problems of venture

10. Inadequate estimation

4. Poor organization structure of venture

13. Lack of policy agreement

11. Lack of adequate preplanning

2. Poor quality of venture work

9. Work termination

The following problems were ranked as some what important

12. Lack of attention and flexibility

8. Poor communication between parties

3. Delay caused by the venture

17. Reaching a decision takes a long time.

15. Too much paper work has to be sent to the other party for approval.

14. Foreign venture headquarters are abroad

VIII based on the hypothesis test the saudi-saudi joint venture and saudi-foreign joint venture do not agree on the ranking of importance of problems facing joint venture firms.

Based on the interview conducted for this research, the following can be concluded :

1. A high percentage of local firms enter into joint venture on a project basis, so when the project is over, the joint venture gets over.

2. Market demand, and the political situation greatly affect the joint venture firms.

3. It is difficult to find the right partner with similar objectives.

4. Joint venture by services involves taking payment for services.

6.3 Recommendations

6.3.1 General Recommendations

To avoid the problems facing the joint venture, the following recommendations worth consideration :

1. A standardized form of the contract is strongly recommended. All points in the contract should be meaningful and reasonable. Expert people have to review the project contract and give their recommendations before the joint venture firms sign the contract.

2. Every party in the joint venture firm must study his partner in detail, his financial position, quality of work, organization structure, and where the Headquarters will be.

3. Drawings and specifications should be reviewed, engineers should make a detailed and comprehensive review of each drawing and specification.

4. The owner should recognize his liability and understand the financial implications of his goal.

5. It is recommended to mobilize the joint venture in the Kingdom of Saudi Arabia to save travelling and communication expenses.

6. Good relationship between parties in the joint venture is very helpful in executing the work smoothly.

7. Joint venture can be successful because they encourage teamwork and because they are free of taxes for an initial five year period.

8. Foreign exchange currency rate variations must be taken into consideration.

9. Local contractors mainly enter joint ventures for technology transfer to the project in the Kingdom, while the foreign contractor enters a joint venture to get into the Saudi market.

10. The management of joint venture must be from both partners, because when the foreign venture provides the management, he will take a fee for that plus his percentage in profit. So most losses to the joint venture will be faced by the Saudi partner.

6.3.2 Recommendations for Future Research

The results of this research suggest the following areas which could be recommended for future research :

1. The same research for other type of fields such as petrochemical companies.

2. The same research for project-wise joint venture and company-wise joint venture.

3. Methods of solving the problems mentioned in this study.

4. The same research but focusing on a different region in the Kingdom of Saudi Arabia.

5. This study is limited to public projects, and it is suggested that the same research could be done for private projects also.

6. This study is concentrate on poor written contract between the joint venture company and the owner, research could be done for poor written contract between the two partner in the joint venture firm.

7. This study makes a comparison between Saudi-Saudi joint venture and Saudi-Foreign joint venture. It is suggested that the same research could be done by comparing :

   a) Role in construction
   b) Type of joint venture companies
   c) Why a joint venture is made.

APPENDIX - I

QUESTIONNAIRE

QUESTIONNAIRE

JOINT VENTURE IN CONSTRUCTION

FIRMS IN SAUDI ARABIA

Purpose

The objective of this questionnaire is to identify the problem faced by joint venture construction firms, in the Eastern Province in the Kingdom of Saudi Arabia.

Definition

Joint venture in this questionnaire is defined as a union of two or more parties agreed to jointly share the responsibilities, profits and losses of a construction contract.

COMPANY NAME:

COMPANY NATIONALITY:

RESPONDENT'S NAME:

POSITION OF THE RESPONDENT:

PART A:

1. CIRCLE ONE OF THE FOLLOWING TO INDICATE YOUR ROLE IN CONSTRUCTION:

   A. Contractoring
   B. Design and Consultancy
   C. Design - Construction
   D. Other. (Please specify)

2. NUMBER OF EMPLOYEES IN THE JOINT VENTURE COMPANY.

3. TYPE OF CONSTRUCTION:

   A. Housing

B. Engineering

C. Non-residential Building Construction

D. Industrial Construction

E. Other. (Please specify)

4. WHICH GRADE ARE YOU (AS SPECIFIED BY MINISTRY OF COMMERCE)?

a. First

b. Second

c. Third

d. Fourth

e. Fifth

5. WHAT WAS YOUR MAIN REASON FOR ENTERING INTO A JOINT VENTURE IN SAUDI ARABIA? (CHECK MORE THAN ONE IF REQUIRED)

a. Risk Sharing

b. Technology Transfer

c. Profit

d. Get into the Market

e. Other. (Please specify)

6. WHAT TYPE OF JOINT VENTURE DO YOU USUALLY ENTER?

JOINT VENTURE IN

- Percentage
- Profit
- Management
- Other. (Please specify)

7. PLEASE SPECIFY ANY COMMENTS CONCERNING YOUR JOINT VENTURE IN SAUDI ARABIA.

PART B

8) The following are some problems joint ventures may face. Please mark each problem in terms of degree of importance.

disadvantages	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	UNIMPORTANT
1- POOR WRITTEN CONTRACT.					
2- POOR QUALITY OF VENTURE WORK.					
3- DELAY CAUSED BY THE VENTURE.					
4- POOR ORGANIZATION STRUCTURE OF VENTURE.					
5- FINANCIAL PROBLEMS OF VENTURE.					
6- PAYMENT DELAY FROM THE OWNER.					
7- GOVERNMENT REGULATIONS.					
8- POOR COMMUNICATION BETWEEN PARTIES					
9- WORK TERMINATION.					
10- INADEQUATE ESTIMATION.					
11- LACK OF ADEQUATE PREPLANNING.					
12- LACK OF ATTENTION & FLEXIBILITY.					
13- LACK OF POLICY AGREEMENT.					
14- FOREIGN VENTURE HEADQUARTERS ARE ABROAD.					
15- TOO MUCH PAPER WORK HAS TO BE SENT TO THE OTHER PARTY FOR APPROVAL					
16- LACK OF ADEQUATE STUDY OF PARTNERS BEFORE FORMING THE J.V.					
17- REACHING A DECISION TAKES A LONG TIME.					
18- OTHERS - (PLEASE SPECIFY).					

استفتـــــــاء

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شركات الانشاء المختلطة في المملكة العربية السعودية

الغرض من الدراســة :-

الغاية من هذا الاستفتاء هو تحديد المشاكل التي تواجه شركات الانشاء المختلطة في المملكة العربية السعودية .

تعريـــــف :-

أن تعريف الشركة المختلطة في هذا الاستفتاء هو اتحاد جانبين أو أكثر واتفاقهم على تقاسم المسؤوليات والربح والخسارة في المشاريع الانشائية .

يتبع ٢/٠٠٠

اســـم الشركـــــة :

جنسية الشركـــــة :

اسـم المجيـــــب :

مركز المجيـــــب :

الجزء الأول :-

١ - يرجى الاشارة لواحد من الأجوبة التالية لتحديد دورك في عملية الانشاء .

أ) مقـــاولات
ب) التصميم والاشراف
ج) التصميم والانشاء
د) أي مجال آخر ، رجاء الاشارة اليه

٢ - عدد الموظفين في الشركة المختلطة .

٣ - نوع الانشاء .

أ) سكنـــي
ب) هندســي
ج) انشاءات مباني غير سكنية .
د) انشاءات صناعية .
و) غيرها الرجاء التحديد .

يتبع ٣/...

٤ - في أي درجة تصنف شركتك حسب تصنيف وزارة التجارة .

أ) الأولـــى
ب) الثـانيـة
ج) الثـالثـة
د) الرابعـة
و) الخـامسـة

٥ - مـا هو السبب الرئيسي لـدخولـك في شركة مختلطة في المملكة العربية السعودية بـامكـانك اختيـار أكثر من اجابـة .

أ) مشاركة الأخطار
ب) نقـــل التقنية
ج) الربـــــــح
د) الدخـول للـسـوق
و) غيرهـا الرجاء التحديد

٦ - مـا هو نوع الشركة المختلطة التي دخلت بهـا .

شركـات مختلطة في : - النسبـة
- الربـــح
- الادارة
- غيرهـا الرجاء التحديد

٧ - الرجاء كتـابـة أي ملاحظات بخصوص الشركـات المختلطة في السعودية .

يتبع ٤/...

الجزء الثاني :-

٨) فيما يلي بعض المشاكل التي قد تواجهها الشركات المختلطة ، الرجاء الاشارة الى الاجابة المناسبة حسب أهميتها .

	السيئات	مهم جدا	مهم	متوسط الأهمية	متوسط غير الأهمية	غير مهم
(١)	العقود السيئة					
(٢)	النوعية الرديئة لعمل الشريك					
(٣)	التأخير الناتج عن الشريك					
(٤)	سوء التنظيم الهيكلي للشريك					
(٥)	مشاكل وعقبات مالية للشريك					
(٦)	تأخير الدفع والسداد من المالك					
(٧)	القوانين والاجراءات الحكومية					
(٨)	ضعف الاتصال بين الشركاء					
(٩)	انهاء الأعمال					
(١٠)	سوء التقدير					
(١١)	نقص التخطيط المبدئي					
(١٢)	نقص الاهتمام والمرونة					
(١٣)	قلة الخطط المتفق عليها					
(١٤)	ادارة الشركة المختلطة الأجنبية خارج المملكة					
(١٥)	كمية الأعمال الكتابية التي يجب ارسالها للشريك الآخر لأخذ موافقته					
(١٦)	عدم دراسة وفهم الشركاء لبعضهم البعض قبل تكوين الشركة المختلطة					
(١٧)	الوقت الطويل الذي يستغرقه اتخاذ القرارات					
(١٨)	غيرها الرجاء التحديد					

APPENDIX - II

FREQUENCIES

1. **Total Frequencies**

2. **Saudi-Saudi Frequencies**

3. **Saudi-Foreign Frequencies**

TOTAL FREQUENCY

FOR BOTH SAUDI-SAUDI & SAUDI- FOREIGN VENTURES

DISADVANTAGES	VERY IMPORTANT	IMPORTANT	SOME WHAT IMPORTANT	SOME WHAT NOT IMPOR	NOT IMPORTANT
1- POOR WRITTEN CONTRACT.	25	12	5	1	7
2- POOR QUALITY OF VENTURE WORK.	12	12	12	4	10
3- DELAY CAUSED BY THE VENTURE.	8	10	16	3	13
4- POOR ORGANIZATION STRUCTURE OF VENTURE.	14	18	5	6	7
5- FINANCIAL PROBLEMS OF VENTURE.	18	13	9	4	6
6- PAYMENT DELAY FROM THE OWNER.	23	14	6	3	4
7- GOVERNMENT REGULATIONS.	22	12	8	6	2
8- POOR COMMUNICATION BETWEEN PARTIES.	9	16	18	0	7
9- WORK TERMINATION.	13	15	11	2	9
10- INADEQUATE ESTIMATION.	17	11	13	3	6
11- LACK OF ADEQUATE PREPLANNING.	12	20	5	5	8
12- LACK OF ATTENTION & FLEXIBILITY.	9	17	10	6	8
13- LACK OF POLICY AGREEMENT.	15	15	10	4	6
14- FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	3	6	19	11	11
15- TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	3	16	8	11	12
16- LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	19	16	8	3	4
17- REACHING A DECISION TAKES LONG TIME.	15	12	10	3	10

SAUDI-SAUDI VENTURE FREQUENCY

DISADVANTAGES	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT NOT IMPOR	NOT IMPORTANT
1- POOR WRITTEN CONTRACT.	4	5	5	1	5
2- POOR QUALITY OF VENTURE WORK.	3	4	8	2	3
3- DELAY CAUSED BY THE VENTURE.	3	2	9	2	4
4- POOR ORGANIZATION STRUCTURE OF VENTURE.	8	6	2	1	3
5- FINANCIAL PROBLEMS OF VENTURE.	7	3	6	3	1
6- PAYMENT DELAY FROM THE OWNER.	12	3	2	2	1
7- GOVERNMENT REGULATIONS.	8	5	3	3	1
8- POOR COMMUNICATION BETWEEN PARTIES.	2	7	9	0	2
9- WORK TERMINATION.	3	6	7	1	3
10- INADEQUATE ESTIMATION.	4	7	5	2	2
11- LACK OF ADEQUATE PREPLANNING.	0	9	5	3	3
12- LACK OF ATTENTION & FLEXIBILITY.	0	9	5	3	3
13- LACK OF POLICY AGREEMENT.	5	4	8	2	1
14- FOREIGN VENTURE HEADQUARTER EXIST ABROAD.	0	2	7	6	5
15- TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	1	6	1	7	5
16- LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	4	8	2	2	4
17- REACHING A DECISION TAKES LONG TIME.	3	6	6	1	4

SAUDI-FOREIGN VENTURE FREQUENCY

DISADVANTAGES	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT NOT IMPOR	NOT IMPORTANT
1- POOR WRITTEN CONTRACT.	21	7	0	0	2
2- POOR QUALITY OF VENTURE WORK.	9	8	4	2	7
3- DELAY CAUSED BY THE VENTURE.	5	8	7	1	9
4- POOR ORGANIZATION STRUCTURE OF VENTURE.	6	12	3	5	4
5- FINANCIAL PROBLEMS OF VENTURE.	11	10	3	1	5
6- PAYMENT DELAY FROM THE OWNER.	11	11	4	1	3
7- GOVERNMENT REGULATIONS.	14	7	5	3	1
8- POOR COMMUNICATION BETWEEN PARTIES.	7	9	9	0	5
9- WORK TERMINATION.	10	9	4	1	6
10- INADEQUATE ESTIMATION.	13	4	8	1	4
11- LACK OF ADEQUATE PREPLANNING.	12	11	0	2	5
12- LACK OF ATTENTION & FLEXIBILITY.	9	8	5	3	5
13- LACK OF POLICY AGREEMENT.	10	11	2	2	5
14- FOREIGN VENTURE HEADQUARTERS ARE ABROAD.	3	4	12	5	6
15- TOO MUCH PAPER WORK HAS TO BE SEND TO THE OTHER PARTY FOR APPROVAL.	2	10	7	4	7
16- LACK OF ADEQUATE STUDY OF PARTENERS BEFORE FORMING THE J.V.	15	8	6	1	0
17- REACHING A DECISION TAKES LONG TIME.	12	6	4	2	6

APPENDIX - III

THE GOVERNMENT AND THE BUSINESS ENVIRONMENT (23)

Planning

The Ministry of Planning's Fourth Development Plan strategy 1405-1410 AH (1985-1990) is set out. The full text of the Fourth Development Plan became available towards the end of 1985.

It will be seen from the overall objectives of the Plan that without overturning existing cultural values, the Government remains committed to achieving an economic base that is not dependent upon oil; to undertake the supportive role of ensuring the establishment and maintenance of the infrastructure, and to provide for the development of the people.

The following eight basic principles were well studied in detail since they all affect the local operations :

(1) Improving economic performance and using new technology

(2) Emphasis on private sector development

(3) Rationalization of Government spending

(4) Effectiveness of Government spending

(5) Personal development and training of Saudi nationals

(6) Development of social welfare

(7) Maintenance of defence

(8) Government Budget to be in line with revenue.

The detail of the strategy of the Fourth Development Plan is set

out below.

1. To apply Allah's Sharia (God's Divine Law).
2. To defend the Faith and Nation; and to uphold the security and social stability of the country.
3. To form productive citizen ensuring their livelihood and rewarding them on the basis of their work.
4. To develop human resources thus ensuring a constant supply of manpower and upgrading and improving its efficiency to serve all sectors.
5. To raise cultural standards to keep pace with the Kingdom's development.
6. To reduce dependence on the production and export of crude oil as the main source of national income.
7. To continue with real structural changes in the Kingdom's economy through continuous transformation to produce a diversified economic base - with due emphasis on industry and agriculture.
8. To develop mineral resources and to encourage discovery and utilization thereof.
9. To concentrate on qualitative development through improving and further developing the performance of the utilities and facilities already established during the three Development Plan periods.
10. To complete the infrastructural projects necessary to achieve overall development.
11. To achieve economic and social integration between the Arab Gulf Cooperation Council (AGCC) countries.

The First Basic Strategic Principle

Emphasis should be laid on improving the economic productive standards of the services, utilities and products which the Government provides for citizens - both directly (such as education and security services); and indirectly (such as electricity, transport and basic commodities).

Economic performance may be improved by means of:

1. Reducing production costs of public services and utilities.
2. Ensuring that services are appropriate and not excessive, e.g. by limiting specifications for constructions for or operation of projects to what is actually required.
3. Utilizing technology in all public service sectors through mechanization and the use of advanced methods.
4. Concentrating on those technologies that are available for the needs of the national economy such as automation; the use of saline water in agriculture and other methods.
5. Judging the economic feasibility of projects (of all types) by including operational and maintenance costs (including management costs); and not only capital costs.
6. Encouraging and inducing the public to invest in feasible worthwhile industries dependent on local raw materials which use production methods requiring minimum labor and minimum quantities of critical physical resources such as water.
7. Encouraging investment and the establishment of joint stock

companies in large scale feasible agricultural projects employing modern equipment and machinery in irrigation; and continuing to encourage individual investments therein.

8. Supporting the trend to invest in projects applying new technologies, for which the Kingdom has economic advantages or which are badly needed e.g. solar energy projects, modern irrigation methods and the use of green houses.

9. Supporting centers and programs for applied research.

10. Making full provision, with regard to any projects, for all foreseeable future maintenance and operational requirements. In project, design consideration should be given to reducing maintenance requirements as far as possible.

11. Including safety precaution programs in maintenance scheduling based on the life of the unit and/or the rate of operation (capacity utilization).

12. Standardizing the technical specifications of projects to facilitate and reduce the costs of maintenance.

13. Developing training programs for machine operation thereby obviating operational errors.

14. Including general principles of maintenance as part of the education for the post-elementary stages to enable individuals to carry out simple maintenance tasks.

15. Encouraging the private sector to invest in maintenance projects.

16. Selecting development centers in those areas capable of accommodating and supporting production projects in order to attract peo-

ple from neighbouring areas which lack this development potential.

17. Laying emphasis on the employment of Saudi manpower in important permanently productive sectors.

18. Developing appropriate administrative organizations to serve the new needs of the community.

The Second Basic Strategic Principle

Adopt a policy giving the private sector the opportunity to undertake many of the economic tasks of the Government, while the Government would not engage in any economic activity undertaken by the private sector.

This policy may be implemented through :

1. Giving the private sector the opportunity to operate, manage, maintain and renovate many of the utilities currently operated by Government provided that this results in lower costs, better performance, and employment opportunities for Saudi citizens.

2. Offering for public subscription the shares of SABIC and Petromin companies thus giving the private sector the opportunity to share in the ownership and management of basic industries set up by the Government.

3. Reconsidering some of the prevailing methods, policies and q regulations so as to allow the private sector to operate more freely and more flexibly and to assist it in becoming more creative and devel-

oped. This includes (i) the equitable adjustment of price control on private hospitals and clinic, thus ensuring fairness to citizens and investors alike; and (ii) the development of procedures for commercial courts and notary public offices, etc.

4. Encouraging cooperatives, as well as private benevolent and commercial societies and institutions to undertake social and economic projects e.g., the management of private sanitary hospitals and clinics, tourist areas and recreation centers.

5. Urging commercial banks to extend their credit facilities to production projects instead of concentrating on the import trade.

6. Encouraging the incorporation of more joint stock companies to undertake large projects with economies of scale so that the greatest number of citizens may benefit from investment transactions.

7. Creating a system under Government supervision, for the exchange of company shares with the objective of encouraging investment and avoiding the pitfalls of financial speculation.

8. Participation of the private sector in formulating and implementing training programs.

9. Making information available to citizens by increasing the quality and frequency of special programs for identifying investment opportunities in the productive sectors.

10. Carrying out more studies of investment and marketing opportunities and the feasibility of projects in the productive sectors.

11. Acquainting investors regularly with the results of official studies relating to mining; encouraging investors to start utilization and

development of available minerals; allowing companies to invest in discovered minerals; and encouraging investment by various means - such as the provision of basic infrastructure.

12. Giving priority to Saudi contractors (qualified and classified) in implementing various projects. When a foreign company is awarded a contract, it should subcontract a proportion of the work to Saudi contractors.

13. Dividing projects, whenever possible, technically or economically, into multiple contracts or sub-contracts to enable the participation of Saudi companies in their execution.

14. Promoting the incorporation of national financial institutions for the investment of (private) funds within the Kingdom.

The Third Basic Strategic Principle

Rationalize the system of direct and indirect subsidies on many goods and services provided by the State :

1. Reduce subsidy rate in any way that will rationalize consumption without significantly affecting low income consumers.

2. All Government departments which administer public services should make economic efficiency fundamental to the function of these services by adopting two basic principles :

   First - the cost of producing such services to the Saudi community should be reduced.

   Second - the price of such services should not be less than

production costs, except in rare cases - and with the proviso that the prices should be periodically reviewed.

The Fourth Basic Strategic Principle

The consideration of economics should predominate in the Government's investment and expenditure decisions.

In practice, this means :

1. Considering water as a basic factor and an important determinant of efficiency in Government projects as is the case with expatriate labor or inflation.
2. The development of economically promising natural resources e.g. the exploration of mineral and sea resources, the mapping of their location, their further development and utilization; the processing of available gas to the maximum extent possible.
3. Expansion - both horizontal and vertical - in the petrochemical industries as well as in the production of gas and petroleum derivatives, through the private sector or mixed companies, whenever economic feasibility is proven.
4. Increasing the capacity for manufacturing refined petroleum products to the maximum possible extent within the bounds of economic feasibility.

The Fifth Basic Strategic Principle

Continue the development of (Saudi) manpower, through the eval-

uation of educational and training programs and curricula as well as by the further development or modification of these in conformity with the Islamic Sharia; the changing needs of society; and the requirements of the development process :

1. Primary education for all boys and girls shall be mandatory.
2. To identify, at each educational stage beyond the intermediate level, the proportion of students qualified to receive higher education so that the remainder can be guided towards specialized technical institutes.
3. To evaluate the programs and curricula of university education, especially admission policy.
4. To identify the areas and bases for employment of women in a manner which would not be contrary to the Muslim Faith.
5. To limit university business to proficient students and to those fields of specialization (including technical educational and vocational training) identified as requiring incentives.
6. Attention should be paid to the quality of training by concentrating on the use of advanced technology at the intermediate and advanced levels.
7. Training programs should reflect actual economic need and quantitatively and be set at the level of efficiency required.
8. There should be a greater concentration on training with the aim of encouraging on-the-job training.
9. To give paramount importance to libraries in order to encourage and accustom students to make use of library facilities.

The Sixth Basic Strategic Principle

Attention should be given to the development of Saudi society; to the provision of social welfare and health care for all; and to the support given to society's participation in the implementation of the programs of the Plan as well as in reaping the benefits of development.

It, therefore, becomes necessary :

1. To create in Saudi citizens an awareness of the objectives and requirements of development and the handling of the tools of development. This calls for :
   - information through the public media giving religious and social values to work as an important and respectable activity in order to change attitudes towards certain occupations which at present are not acceptable to some people.
   - the dissemination of culture by encouraging literary authorship and the spread of public libraries; as well as by establishing museums and the preservation of historical and archaeological sites.
   - the establishment of a National Library with a collection of books and manuscripts which would include every Saudi author.

2. To increase the attention given to the handicapped and to intro-

duce national programs for their rehabilitation and welfare.

3. To provide more care for all children in all fields, and at all levels.
4. To introduce compulsory military service.
5. To introduce some basic military subjects into secondary school curricula.
6. To expand anti-illiteracy and adult education programs.
7. To give more attention to local community programs based upon the effective participation of citizens in the planning and implementing of local projects.
8. To give attention to preventive medicine and health education; increasing the effectiveness of preventive and curative institutions in safeguarding the citizen; and to widen the scope of health programs.
9. To improve the capabilities of individuals to increase their income, thereby removing the resulting social imbalance.
10. To pay more attention to social welfare programs in all fields and to induce private sector participation by encouraging the establishment of yet more private benevolent societies.
11. To continue the development of environmental programs.
12. To pay more attention to youth welfare programs; to develop the capabilities of young people; and to enable them to gain mental and physical skills in the fields of culture, science and sports.

The Seventh Basic Strategic Principle

In order to carry out the Second Objective the defence and secur-

ity authorities shall plan their strategy in order to ensure the defence of the nation, and shall submit that strategy to the National Security Council preparatory to presenting it for consideration to the Council of Ministers.

The Eighth Basic Strategic Principle

Adopt a fiscal policy which keeps the level of expenditure in line with the Government's revenues throughout the Fourth Plan period with emphasis on these criteria :

1. Authorized projects undertaken must comply with development objectives and the strategic principles set out above.
2. Authorized projects undertaken must be on the combined basis of their operating and maintenance costs (including management and replacement cost) over the life of the project.

III. This strategy is hereby approved and taken as basis for the Fourth Development Plan of the Kingdom of Saudi Arabia (1405-1410 AH).

APPENDIX - IV

PROCEDURE FOR LICENSING FOREIGN CAPITAL PROJECTS AND JOINT VENTURES (23)

INDUSTRIAL (MANUFACTURING) PROJECTS

Investors wishing to establish a manufacturing project completely or partly (Joint Venture) owned by foreign capital, are required to submit an application to the Ministry of Industry and Electricity (Foreign Capital Investment Bureau), requesting the registration of their names in the provisional register, pending the completion of their detailed feasibility study. Saudi Law prescribes that all official and legal correspondence be written in Arabic. In most instances, English translations are also submitted.

The "Industrial Licensing Department" at the Ministry shall consider the probabilities of the establishment of the manufacturing unit applied for in the light of the latest economic and market data available.

A six-month grace period shall be allowed for acceptable project applications, during which a detailed economic feasibility study shall be prepared by the project proponents. An extension of this grace period can be granted on the basis of convincing reasons. However, the Ministry retains the right of rejecting applications whenever the available industrial marketing and economic data dictate such an action.

In cases where a feasiblity study has already been completed, direct application for an industrial licence can be made. A copy of such study shall be attached with the application forms.

Feasibility studies prepared for licensing purposes shall always

include data on the following :

a) Proposed annual production capacity

b) Type of products

c) Proposed plan site

d) Name and addresses of project proponents.

Three copies of the application forms, obtained without charge from the Ministry, shall be duly filled and submitted directly to the Foreign Capital Investment Bureau, at the Ministry, or the branches of the Ministry in towns other than Riyadh.

Other documents to be attached with the application forms and the feasibility studies are :

(a) Documentation as to the foreign firm's previous experience and activities in similar projects in and outside the Kingdom.

(b) A copy of the approval of the Board of Directors or the owners of the foreign firm sanctioning the establishment of the proposed project in Saudi Arabia.

(c) A copy of the draft agreement between the local and foreign company.

(d) A copy of the home registration certificate of the foreign company.

(e) Copies of machinery catalogues and quotations related to the project.

(f) A power of attorney made by the foreign firm authorizing a signatory to act on its behalf in all matters related to the application, licensing, registration, etc.

The above documents are imperative to the consideration and evaluation of the application by the Bureau.

The Bureau shall transmit its evaluation report to the Foreign Capital Investment Committee which shall make the necessary decision.

If found acceptable, the Committee shall then make its recommendations to the Minister of Industry and Electricity for the final approval of the license.

Following the Minister's approval, the Committee shall issue the Ministerial Licensing Decision.

Procedure for Licensing Foreign Capital Projects And Joint Ventures

Contracting, Maintenance and Technical Services Projects

Proponents shall fill the special application forms, obtained from the Ministry of Industry and Electricity, and submit them to the Foreign Capital Investment Bureau at the Ministry. The following are required to be attached :

(a) A copy of the agreement between the local and foreign parties (in joint ventures) signed by both if possible.

(b) Copies of authenticated documents as to the most impor-

tant projects, in the field applied for, executed by the partner, giving their starting and completion dates.

(c) A copy of the home registration certificate of the foreign firm.

(d) A copy of the foreign firm's board of directors' approval of investment in the project applied for in the Kingdom of Saudi Arabia.

(e) A statement of the types and values of the most important machinery items and plant owned by the foreign firm outside the Kingdom.

(f) Copies of the catalogues and quotations related to the project applied for.

(g) An official document from the foreign company indicating the kind and value of facilities it shall render to the project.

(h) Annual reports and budgets of the foreign firm for the last three years.

(i) If the project applied for is for the provision of maintenance facilities, it is required to submit a statement of the various machinery items and equipment to be installed in a complete workshop in the Kingdom.

(j) If the project applied for concerns the provision of transport services, a detailed economic feasibility study must be submitted.

(k) A copy of the power of attorney made by the foreign firm authorizing a signatory to act on behalf of Saudi firm in all

matters related to the application, licensing, registration.

The Bureau shall study such applications in the light of the foreign party's experience and capability and shall then transmit its recommendations to the Foreign Capital Investment Committee.

Following the positive recommendations of the Committee, the Bureau shall prepare the Ministerial decision, which shall be signed by the Minister approving the project licence.

The licensing decision shall then be issued by the Foreign Capital Investment Bureau.

APPENDIX - V

DETERMINING VENTURE PARTICIPATION (14)

APPENDIX V

DETERMINING VENTURE PARTICIPATION

SUMMARY

A practical method to determine venture participation that incorporates profitability and risk investment is presented. Corporate planners also may use this method to evaluate potential risk investments in exploratory trends to maximize profitability and minimize the risk of financial failure caused by "Gambler's Ruin".

INTRODUCTION

The law of Gambler's ruin states that there is a chance of going broke by a normal run of bad luck, regardless of the long run expectations. Gambler's ruin is avoided by having sufficient capital to continue to participate in numerous ventures and ride out the run of bad luck.

There is a method that determines venture participation when the decision maker's level of risk aversion varies according to venture profitability and total risk investment. In this method, decision makers determine their fundamental aversion to risk in all ventures when the expected profit equals the risk investment in each venture. All ventures meet this condition when a decision maker compares the discounted payout of each venture. A decision maker's selection of a desired working interest for any venture that anticipates only a discounted pay-

out establishes the decision maker's fundamental aversion to risk.

CONCEPT AND THEORY

Venture participation is determined as follows :

1. Venture profitability
2. Total risk investment
3. Aversion to risk
4. Probability of success
5. Available risk investment funds

(Probability of financial failure) = (Probability of all dry holes)

This equality is based on the assumption that Gambler's ruin will occur when all wells drilled are dry holes. However, it is possible to have a few successful wells that are incapable of preventing Gambler's ruin. When this circumstance prevails, this equality will provide a good approximation for venture participation if certain conditions are satisfied. Expressing this equality in terms of the decision maker's aversion to risk (S) and probability of success (Ps) yields

$$1 - S = (1\ Ps)\quad N \tag{1}$$

where N is the number of ventures a decision maker must participate in to avoid Gambler's ruin.

By taking the log of both sides of Eq. 1 and solving for N, we obtain this equation :

$$N = \frac{\log (1 - S)}{\log (1 - Ps)} \tag{2}$$

Participation (F) in a venture is determined by available risk investment funds (M) divided by the average risk investment before tax (Ib) and the number of ventures (N) required to avoid Gambler's ruin.

$$F = \frac{M}{N * Ib} \tag{3}$$

Substituting N from Eq. 2 into Eq. 3

$$F = \frac{M \log (1 - Ps)}{Ib \log (1 - S)} \tag{4}$$

This equation provides a method that some decision makers employ to determine venture participation. Note that Eq. 4 requires the decision makers to relate profitability, risk investment, and probability of success to a level of risk expressed as a level of confidence or risk aversion (S). Assigning the appropriate level of confidence or risk aversion for each venture when comparing numerous venture profitabilities, risk investments, and probabilities of success is a difficult task when attempting to establish a meaningful level of consistency. Therefore, the following procedure was used to improve the decision making process.

Risk capacity (R) is the ratio of one successful venture to the one success and the maximum number of unsuccessful venture expenditures recovered by the profit of that success.

$$R = \frac{\text{one success}}{\text{one success} + \text{failures}}$$

where the number of failures is determined from the venture profitability (Pv) divided by the total risk investment or cost of failure in after-tax dollars (Ia).

$$R = \frac{1}{\frac{1 + Pv}{Ia}} \tag{5}$$

If a decision maker participates in a venture that realizes a probability of success that is greater than the risk capacity, the venture will return a profit on the decision maker's risk investment. However, if the venture achieves a probability of success that is only equal to the risk capacity, the venture will yield only a discounted payment.

If the venture under evaluation is a farm - in (Fi), Eq. 5 is expressed as :

$$R = \frac{1}{1 + \frac{Pv * Fi}{Ia}} \tag{6}$$

where Fi is the decimal fraction of a farm - in that in retained after payment (i.e. 60/40 farm - in Fi = 0.6).

If a partial farm - out (Fo) of working interest in a venture is under consideration, Eq. 5 is expressed as

$$R = \frac{1}{1 + \frac{Pv[Fo(1 - F) + F]}{Ia * F}} \tag{7}$$

where Fo is the decimal fraction of a farm - out that is gained after payment.

Eqs. 2, 3 and 5 interrelate the five criteria required to determine venture participation. The first two equations combined to obtain Eq. 4, a method employed by some decision makers to determine venture participation. However, it is desirable to climinate the level of confidence or risk aversion (S) from Eq. 4 and incorporate profitability and risk investment from Eq. 5. This is

accomplished by the establishment of the decision maker's fundamental aversion to determine the risk by the selection of a desired working interest in any venture that anticipates only a discounted payout.

Upon the selection of this desired working interest (H) for any venture that anticipates only a discounted payout, the decision maker's fundamental aversion to risk is established. Since the venture anticipates only a discounted payout, the risk capacity is equal to the probability of success, and the substitution of R for Ps in Eq. 2 yields

$$N = \frac{\log (1 - S)}{\log (1 - R)} \tag{8}$$

The decision maker selected working interest H in this venture; therefore, substituting H for F in Eq. 3

$$H = \frac{M}{N * Ib} \tag{9}$$

Substituting Eq. 8 into Eq. 9

$$H = \frac{M \log (1 - R)}{Ib \log (1 - S)} \tag{10}$$

Solving this equation for the log (1 - S) will express the decision maker's fundamental aversion to risk and the level of risk aversion for each venture in terms of the decision maker's desired working interest in any venture that anticipates only a discounted payout, venture profitability, risk investment, and funds available for risk investment.

Substituting the log (1 - S) from Eq. 10 into Eq. 4

$$F = \frac{H \log (1 - Ps)}{\log (1 - R)} \qquad (11)$$

The determination of venture participation by Eq. 11 eliminates the necessity of quantifying a level of confidence or risk aversion in terms of S. Decision makers determine their fundamental aversion to risk in this equation by the selection of H for any venture that anticipates only a discounted payout. The level of risk aversion changes according to the log (1-R), which is determined by the profitability and risk investment of each venture.

Decision makers who elect to implement this method of determining venture participation must establish the appropriate value of H for any venture that anticipates only a discounted payout. If decision makers believe their participation in ventures historically was acceptable, a review of these decisions will provide the information necessary to determine the appropriate range and average value of H. After selecting this H for any venture that anticipates only a discounted payment, the decision maker will use that value of H for determining venture participation in all ventures unless there are fiscal constraints on the maximum desired risk investment.

Funds available for risk investments are established by the decision maker's budget or source of capital. If H for High-cost ventures that anticipate only a discounted payout requires a significant percentage of the decision maker's budget, the decision maker imposes a fiscal constraint on the desired risk investment of high-cost ventures. The desired risk investment of any venture that anticipates only a discounted payout is determined by the product of H and Ib, the total risk investment. In high-cost ventures anticipating only a discounted payout, the maximum desired risk investment or decision maker's maximum fundamental aversion to risk is determined by the product of C (a fiscal constraint)

and M (the available risk investment funds). Eq. 11 requires the decision maker's fundamental aversion to risk in terms of a working interest for any venture that anticipates only a discounted payout. To obtain the maximum desired working interest for high-cost ventures that anticipate only a discounted payout, the maximum desired risk investment (CM) is divided by the total risk investment before tax (Ib). Therefore, substituting CM / Ib for H in Eq. 11

$$F = \frac{CM \log (1 - Ps)}{Ib \log (1 - R)} \qquad (12)$$

Eqs. 11 and 12 are based on the assumption that Gambler's ruin will occur when all wells drilled are dry holes. However, it is possible to have a few successful wells that are incapable of preventing Gambler's ruin When this circumstance prevails, Eqs. 11 and 12 will provide a good approximation for venture participation if the following conditions are satisfied :

1. Participation exists in a large number of ventures; M / F*Ib

2. Risk capacity (R) is small

3. Probability of success is larger than the risk capacity; Ps > R.

If a decision maker must establish whether conditions 1 and 2 are satisfied, the use of cumulative probability tables is essential. These tables require the decision maker to provide N, Ps, and RN, where N is equal to M / F*Ib. This information and the Tables enable the decision maker to determine a cumulative probability. When the cumulative probability approaches unity, the first two conditions are satisfied.

DISCUSSION

Eq. 11 or 12 will determine venture participation in most evaluations where venture profitability, total risk investment, probability of success, and available risk investment funds are known after the decision maker's fundamental aversion to risk is established by selection of the appropriate values for C & H. If decision makers believe their historical participation in ventures was acceptable, a review of profitability, total risk investment, probability of success, available risk investment funds, and the use of Eqs. 11 and 12, for each venture, will provide a range of values for C and H. Average values of C and H are determined by using the values of C obtained only from high-cost ventures and the values of H from all remaining ventures. To select the appropriate equation using the average values of C and H, the decision maker performs a test. This test determines whether the desired risk investment (H*Ib) is greater than the maximum desired risk investment (C*M) for any venture that anticipates only a discounted payout.

The level of risk aversion established by either equation will decrease or increase when the ratio of profitability to risk investment used to determine risk capacity increases or decreases, respectively.

Venture participation determined by Eq. 11 uses only four criteria :

a) venture profitability

b) total risk investment

c) aversion to risk

d) probability of success

These four criteria and funds available for risk investment provide the

foundation to determine venture participation in Eq. 12. A decision maker will use the second equation when the desired risk investment at discounted payout (H*Ib) is greater than the maximum desired risk investment at discounted payout (C*M) imposed by the fiscal constraint. Both equations require the determination of the risk capacity (R), and in most evaluations, Eq. 5 will determine risk capacity. However, when either a farm-in or partial farm-out is under evaluation, Eqs. 6 and 7, respectively, will determine risk capacity.

Venture participation (F) determined by Eq. 11 or 12 is expressed as a number less than or equal to one. If either equation yields a number greater than one, F is equal to one; therefore, the decision maker is willing to accept 100% of the risk investment (Ib).

CONCLUSIONS

This method determines venture participation when the decision maker's level of reservation varies according to profitability and risk investment. The decision maker's fundamental aversion to risk is established in this method by the selection of a desired working interest for any venture that anticipates only a discounted payout.

A level of participation is promoted or unpromoted ventures determined after the establishment of these criteria :

1. venture profitability
2. total risk investment
3. aversion to risk
4. probability of success
5. available risk investment funds.

The interrelationship of these criteria as described by Eqs. 11 and 12 will determine venture participation and avoid the risk of Gambler's ruin resulting from the failure to drill a successful well. Since *Gr may occur even with a few successful wells, the decision maker should use these equations only when the following conditions are satisfied :

1. participation in a large number of ventures
2. a small risk capacity
3. a probability of success larger than the risk capacity.

APPENDIX - VI

COMPANY LAW (23)

COMPANY LAW

COMPANY

A company is a contract where two or more persons undertake to participate in an enterprise for profit with each contributing a share in the form of money or services with a view to dividing any profits or losses as a result of such an enterprise.

Establishment

Every company shall establish its head office in the Kingdom of Saudi Arabia, and it shall have Saudi nationality, except the joint ventures companies, which may exist abroad and have mixed nationality. Any partnership or company can be formed by two persons or more, except for joint stock companies where five partners are required to establish the company.

Capital and Shares

A partner's contribution may be in cash or in kind. It may also comprise services. All partners shall share the profits and losses at the percentage of their shares in the capital.

General Causes of Dissolution

A company shall be dissolved for any of the following reasons :

a) Expiration of the fixed term for the company.

b) Difficulty in realizing the objective for which the company was

established.

c) Transfer of all interests or shares to one partner.

d) Loss of all the company's assets, or the major parts.

e) Agreement of the partners to dissolve the company before the expiry of its term.

f) Merger of the company into another.

g) If one of the parties concerned, and for serious justifiable reasons, a decision is issued by the Commission for the Settlement of Commercial Companies Disputes to dissolve the company.

Liquidation

During the company dissolution, a company shall enter into the stage of liquidation, but it shall retain its legal entity to the extent required for winding up its affairs and until liquidation is completed.

The power of managers or the board of directors shall remain the same until the dissolution of the company.

The partners or the general meeting shall appoint or replace liquidators and shall determine their power. The decision to dissolve or invalidate the company is made by the Commission for the Settlement of Commercial Companies Dispute.

The liquidation shall be considered complete only after the liquidation accounts are approved by the partners.

Merger

A company may, even during the liquidation stage, merge with another company of the same or of a different kind. The merger shall be valid only when

all the partners agree on the merger.

Publication

All contracts, receipts, notices, and other documents issued by the company must show its name, its kind and the location of its head office.

In addition to these particulars, the amount of the company's capital - the authorized and the paid-in must also be stated.

Moreover, the number and place of Commercial Registration should also be stated.

Type of Company

Companies can usefully be classified as local or foreign organization. Local organizations may take the following form :

a) Joint Liability Partnership

b) Mixed Liability Partnership

c) Mixed Liability Partnership by shares

d) Companies with variable capital

e) Cooperative Companies

f) Limited liability companies

g) Joint stock company

Foreign organizations may be of two types :

a) Joint ventures

b) Foreign companies

Local Organization

***Joint Liability Partnership* (*Sharikat Tadhamun*)**

A joint liability partnership or a General Partnership is an association of two or more persons who assume joint liability, to the extent of their entire fortune, for the partnership's debts.

The partner's interest may not be represented by negotiable warrants.

The name of the joint liability partnership shall consist of the name of one or more of the partners, combined with an indication that a partnership exists.

The joint liability partnership shall be dissolved by the death, adjudged legal incapacity or declaration of bankruptcy or insolvency of one of the partners, or by the withdrawal of any partner from the partnership if its term is not specified.

***Mixed Liability Partnership* (*Sharikat Tawsiyah Baseetah*)**

A mixed liability partnership consists of two categories of partners; one including at least one general partner who is responsible to the extent of his entire fortune for the partnership's debts and the other including at least one limited partner who is responsible for the partnership's debts to the extent of his share in the capital.

The provisions governing the joint liability partnership shall apply to the mixed liability partnership regarding the share of each partner and its assignment, publication, management of the partnership and the partner's relation, etc.

Mixed Liability Partnership by Shares (Sharikat Tawsiyah Bel-as-hum)

A mixed liability partnership by shares is a partnership consisting of two categories of partners, one including at least one general partner who is responsible to the extent of his entire fortune for the debts of the partnership and the other including at least four shareholders who are responsible for the debts of the partnership only to the extent of their shares in the capital.

The capital of such partnership shall not be less than one hundred thousand Saudi Riyals, and the paid-in capital upon the formation of the partnership shall not be less than one half of the nominal capital.

The capital shall be divided into negotiable shares of equal value which are not divisible. The value of each share shall not be less than SR:50.

The general partners in a mixed liability partnership by shares shall be subjected to the same provisions as govern general partners in a joint liability partnership

A mixed liability partnership by shares shall be managed by one or more general partners. Their powers, liability and removal shall be subject to the provisions governing managers in a joint liability partnership

Companies With Variable Capital (Sharikat that Massouliyyah Mahdoodah)

Every company may provide by-laws that its capital can be increased by the original partners or by admission of new partners, or be reduced by the partners recovering their shares in the capital.

The capital of the company upon its formation shall not exceed

SR:50,000. It may, however, be increased from year to year by resolution of the partners, provided that any individual increase shall not exceed SR:50,000.

Cooperative Companies (Sharikat Taawoniyya)

A joint stock company or a limited liability company may be formed in accordance with cooperative principles with the following object :

a) Reduction of the cost, purchase, or sale price of certain products or services, by engaging in producers, or brokers' business.

b) Improvement of the quality of products or the standard of services by the company to its members, or by the latter to consumers.

A cooperative company shall have a variable capital. The capital shall be divided into interests or into registered shares of stock of equal value which shall be indivisible as regards the company.

A cooperative company shall be managed by a board of directors consisting of a number of members, but not less than three.

A percentage of net profits not exceeding 6% of the paid up capital shall be distributed to the members.

The company must set aside at least 10% of the profit in every financial year to build up a reserve, until such reserve equals the company's capital.

LImited Liability Company (Sharikat that Massouliyyah Mahdoodah)

A limited liability company is a "partnership" consisting of two or more partners who are responsible for the debts of the company to the extent of their respective interests in the capital, and in which the number of partners shall not

exceed fifty.

The capital of a limited liability company shall not be less than SR:50,000. The capital shall be divided into shares of equal value, which may not be represented by negotiable warrants. In the case of a joint venture company the capital shall be one million riyals and above.

If the losses of a limited liability company total three quarters of its capital, the managers must convene a meeting for all partners to consider whether the company shall continue to exist or be dissolved.

In the case of the loss of 75% of the company's capital, the partners have only two alternatives: either to raise the capital and this means additional contribution, or dissolve the company.

Every company must set aside at least 10% of its profits in each year to build up a reserve fund. The partners may resolve to discontinue such deduction when the reserve totals one half of capital.

A limited liability company shall not be dissolved by withdrawal, adjudged legal incapacity, or declaration of bankruptcy or insolvency of one of the partners.

Joint Stock Companies (*Sharikat al-Mossahamah*)

The capital of a joint stock company shall be divided into equal shares. The members, therefore, will be responsible only for their share value, and their number shall not be less than five.

The capital of a joint stock company that offers its stock to the public shall not be less than one million Saudi riyals. In all other cases, the capital of a

joint stock company will not be less than two hundred thousand Saudi riyals.

The per value of each share shall not be less than fifty Saudi riyals.

FOREIGN CAPITAL INVESTMENT LAW

Definitions

"Foreign Capital" means any money, currency notes, securities, machinery, equipment, spare parts, raw materials, products, means of transport, and intangible rights such as trade marks, when owned by a non-Saudi or by a person whose share capital owners are not all Saudis. It is divided into two parts: First, joint venture, and second, the sponsor.

(a) Joint Venture: It is an association or a union of two or more parties agreed to share with each other. In the Kingdom, the joint venture is known as a mixed company, that is the participation of a Saudi and a non-Saudi in the formation of a local company.

Such joint ventures is subjected to licensing and registration under Foreign Capital Investment regulations and should be registered in the Ministry of Commerce and the Commercial Registrar. In addition, the Articles of Association should be published in the Official Gazette. The provisions governing the joint venture (partnerships) do not apply to joint venture (mixed companies). Moreover, in certain situations and under certain laws, this type of partnership is usually called joint adventure (Sharikat Mahassah).

(b) Foreign Companies: These are companies whose capital is 100% non-Saudi. They may not establish branches, agencies, or offices to represent them, nor may they issue securities or offer them for subscription or sale within the Kingdom except with permission from the Ministry of Commerce. These

branches, agencies, or offices shall be subject to the regulations in force within the Kingdom applicable to the particular activity in which they engage. Saudi Law restricts the appointment of agencies of foreign firms in Saudi Arabia to Saudi nationals and Saudi companies. The local agencies should be wholly national in terms of capital, constitution of the Board of Directors and their authorized signatories.

A Register of the Agencies of foreign firms is maintained at the Ministry of Commerce in which all agencies have to be registered.

Conditions

Foreign capital investment shall be subject to licensing by the Minister of Industry and Electricity after the recommendation of the Foreign Capital Investment Committee. The following two conditions have to be fulfilled :

a) The capital shall be invested in "economic development projects".

b) The capital shall be accompanied by foreign technical expertise.

Development Projects

Development projects are defined as the following :

(a) Productive Industrial Projects

(b) Productive Agricultural Projects

(c) Health Development Projects

(d) Services

(e) Contracting.

(a) Productive Industrial Projects are defined as the processing of raw materials into fully or semi-manufactured goods or processing semi-manufactured materials

into fully made goods, including preparation, packaging and wrapping thereof.

(*b*) ***Productive Agricultural Projects*** are those which are to develop the following :

1. Agricultural products such as fruits, vegetables, grains, nurseries, greenhouses, seeds or animal feeds.

2. Raising cattle, sheep, poultry or rabbits or producing honey, milk or other products.

3. Fishing or the establishment of fishery farms using man-made lakes.

(*c*) ***Health Development Projects*** are defined as the establishment, management and operation of hospitals, clinics, sanatoriums and similar institutions.

(*d*) ***Services*** include the following : banking, hotel, tourism, training, maintenance and operations, cleaning, environmental protection, transportation, loading, unloading, publicity, publishing, advertising and computer services, establishing advanced high technology workshops, large warehouses and cold storage, facilities to serve others, shopping centers and distinguished high quality restaurants.

(*e*) ***Contracting*** is defined as the practice of undertaking to complete specific works for others against charges relevant to the client, including the following:

(1) Civil engineering construction contracting, such as buildings, airports, roads, bridges, dams, seaports or water and sewage works.

(2) Electrical projects contracting, such as power generation stations and related works and electronics projects.

(3) Mechanical projects contracting, such as desalination plants or factories.

NOTATION

The following symbols are used in this thesis :

Ai = constant expressing the weight given to each response, i = 0, 1, 2, 3, 4.

d = The expected error in the estimate. The amount of accuracy

d = difference between ranks on one variable and ranks on the other variable

Ho = Saudi-Saudi vs. Saudi, Foreign have same IMPORTANCE IND

Ha = Saudi-Saudi vs. Saudi, Foreign do not have same IMP IND

n = Number of responses.

N = Sample population

Na = Sample size

p = the population correlation which has zero value as stated by the null hypothesis

r = Rank correlation coefficient

r = the sample Spearman correlation

r_{12} = The agreement between the Saudi, Saudi Venture and the Saudi, Foreign Venture.

S = pq, p : is the proportion of the characteristic under investigation. The maximum value of p = 1/2. q = 1-p = 1/2.

Sr = Standard error of the correlation coefficient

t = the t - statistic.

t : t@/2 is the abscissa of the normal curve that cuts off an area of @ = 0.05 at the tails. t@/2 = 1.960. (1 - @)% = 0.95.

X = The average

Xi = The value given by response (i)

Xi = The variable expressing the degree of importance of each factor.

X1 = The frequency of "very important" response/responses.

X2 = The frequency of "important" response/responses.

X3 = The frequency of "somewhat important" response/responses.

X4 = The frequency of "somewhat unimportant" response/responses.

X5 = The frequency of "unimportant" response/responses.

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